

ORIC COMPUTING

THE COMPLETE ORIC USER MAGAZINE

DECEMBER/ISSUE 2

ORIC PRINTER
COMPETITION

ORIC SPECS

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OFFICIAL ORIC OWNERS USERS GROUP PUBLICATION

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ORIC 1



NEWS...

BOB GREEN REPORTS

To open this month's editorial we would like to say thanks for all those letters of congratulations we received on the launch of your 'Oric Computing'. As publications go, the result of producing a Users Group magazine on a monthly basis depends mainly on the active support of its members, as a result, we would like to pass on your encouragement to all those who took part in the production of the first issue of 'O.C.'.

We received quite a few general comments some of which speak for themselves:-

"Front cover scared my grandmother!"

"Seen that one before!"

"Went looking for my Oric in Coworth Park Horrors on my mates machine!"

"Job to get it off my Dad!"

"Love Dopple-Ganger!"

"Keep up with the smashing mag!"

"Like to see an index"

HOW TO SUBMIT ARTICLES

We would like you to participate in the Groups magazine with your articles etc., after all, the quality and content of 'O.C.' each month will greatly depend on the articles, programs and letters submitted for publication by the Group members themselves. Each of us that uses an Oric-1 will discover characteristics about the Oric which is generally not known about by everybody. This magazine can therefore act as an information media to pass on to other Users our joint experiences of being an Oric Owner.

All types of articles are welcome and can be submitted for publication. We would like to ask that programs be sent to us on tape recorded twice at 'Slow' speed which enables us to load the programs more easily and reproduce the listings on our own 'Dot Matrix' printer. Program instructions can of course be written by hand if they've not been included in the main program. General comments from the programmer are also welcomed. Wiring diagrams are welcomed as we get on to projects along these lines but we would like to ask that they be drawn in Black ink to assist us with direct reproduction, rather than risking errors when being redrawn by us. Articles written using a Word Processor are very welcomed, but please, send a copy of that W.P. as well otherwise we may not be able to load your article.

Tapes sent to us are usually returned - but don't hold your breath!! and if you're a regular writer for O.C. who knows! we may be able to help you in all sorts of ways!!

ORIC PRESS RELEASE

EDEN SPRING INVESTMENT PLC

I am glad to be able to tell you that on Friday, 18th November, 1983, Eden Spring Investment PLC held a shareholders meeting at which the shareholders approved the acquisition of Oric for shares. This means that the shareholders of Oric, who are Mr. J. Tullis, Mr. B. Muncaster, Mr. P. Harding, Mr. P. Johnson, British Car Auction and IEM Singapore, have exchanged our shares in Oric for shares in Eden Spring. We would like to emphasize that there is no change in the control of Oric and there should be no likely changes as far as our staff are concerned except that we now have shares that are dealt with on OTC (Over The Counter) market by the following people. UTC Management, Afcore Investments, Chartwell Securities and Havrod Securities.

FUNDING FOR ORIC

ELECTRONICS WEEKLY, December 7th, 1983.

Following the successful takeover of home computer manufacturer Oric by Edenspring Investments two weeks ago, some £4m has been raised to fund Oric's expansion and product diversification.

The funds came jointly from the amount paid by Edenspring and the sale of Oric shares on the over-the-counter market. Edenspring tried to take Oric onto the USM, but the Stock Exchange refused since Oric has only been trading for a year and a three-year trading record is required.

Oric says the £4m will be used as working capital ultimately to widen the product base, but initially to help ensure future supplies of semiconductors. The company faced problems with supply because it could not assure the big suppliers it would spend a given amount per year and so was subject to the volatility of the market. With the help of the new funds it hopes to overcome the problem.

The company has an 11,000 square foot R & D centre in Cambridge which it says it has equipped with £250,000 of the latest CAD and test equipment.

In future the company hopes that micros and peripherals will only form 50 per cent of its activities, and has ambitions to move into business and communication systems, as well as opto-electronics.

SEEN MY CAT!

By M. J. POAT

One of the features missing from ORIC Basic, which is found on many other machines, is the facility to 'Catalogue' the titles of files saved on tape.

The following program, which is based around the normal SAVE/LOAD routines held in ROM, adds a 'Catalogue' feature.

The program is stored between
#9700 - #9790.

Enter the program and save it to tape with the filename "CAT". When reloaded, type, DOKE #2F5, #9700. This defines the '!' key to call the routine. The '!' key can now be used in place of CLOAD.

To 'catalogue' a complete tape, type
!" [SPACE]".

To load a specific program, type
!" [FILENAME]", all program titles will be 'Catalogued', the requested program will be loaded as normal when found.

The routine works for programs saved at both speeds in the normal way.

If you wish to use this program alongside the 'Verify' routine published in a previous Newsletter, my routine could be moved around in memory using the Relocate facility of "EXMON". It could then be defined to the '&' key, both routines may then be called as required.

```

9700 A59C    LDA $9C
9702 A49D    LDY $9D
9704 B500    STA $00
9706 B401    STY $01
9708 08      PHP
9709 2025E7   JSR $E725
970C 20CAE6   JSR $E6CA
970F 202397   JSR $9723
9712 2004E8   JSR $E804
9715 28      PLP
9716 A600    LDX $00
9718 A501    LDA $01
971A B59D    STA $9D
971C B69C    STX $9C
971E 68      PLA
971F 68      PLA
9720 4C6BC9   JMP $C96B
9723 2063E5   JSR $E563
9726 A96E    LDA #$6E
9728 A097    LDY #$97
972A 2076E5   JSR $E576
972D 2096E6   JSR $E696
9730 2030E6   JSR $E630
9733 C924    CMP #$24
9735 D0F9    BNE $9730

```

```

9737 A209    LDX #$09
9739 2030E6   JSR $E630
973C 955D    STA $5D,X
973E CA      DEX
973F D0F8    BNE $9739
9741 2030E6   JSR $E630
9744 F008    BEQ $974E
9746 9549    STA $49,X
9748 9DB197   STA $97B1,X
974B EB      INX
974C D0F3    BNE $9741
974E 9549    STA $49,X
9750 9DB197   STA $97B1,X
9753 20F0E6   JSR $E6F0
9756 8A      TXA
9757 D004    BNE $975D
9759 20D8E4   JSR $E4D8
975C 60      RTS
975D A981    LDA #$B1
975F A097    LDY #$97
9761 20EDCB   JSR $CBED
9764 A97D    LDA #$7D
9766 A097    LDY #$97
9768 20EDCB   JSR $CBED
976B 4C2D97   JMP $972D

```

```

976E 1007    BPL $9777
9770 43      ???
9771 4154    EOR ($54,X)
9773 414C    EOR ($4C,X)
9775 4F      ???
9776 47      ???
9777 5545    EOR $45,X
9779 202E2E   JSR $2E2E
977C 00      BRK
977D 0D0A0A   ORA $0A0A
9780 00      BRK
9781 33      ???
9782 2D4420   AND $2044

```

```

9785 504C    BVC $97D3
9787 4F      ???
9788 54      ???
9789 00      BRK
978A 5EA097   LSR $97A0,X
978D 2076E5   JSR $E576
9790 20C410   JSR $10C4
9793 07      ???
9794 5665    LSR $65,X
9796 72      ???
9797 6966    ADC #$66
9799 79696E   ADC $6E69,Y

```

>Z

ORIC ATTRIBUTES Part 3

```
599 HIMEM#97FF:TEXT
600 P=PEEK(#26A):IFP=3THENPOKE618,2
601 FORX=48000TO48039:POKEX,32:NEXT
602 CLS:PAPER0:INK7:PLOT0,11,10:PLOT0,12,10:PLOT1,11,17:PLOT1,12,17
603 A$="P A R T   T H R E E":PLOT10,11,A$:PLOT10,12,A$:WAIT400
604 PAPER1:INK7:D$="ORIC DEMO PART 3"
605 HIRES:FORX=0TO8:READB$:PRINTB$:WAIT400:CLS:NEXT
606 DATA"THIS IS ORIC IN HIRES MODE"
607 DATA"TO ACCESS THIS MODE TYPE HIRES"
608 DATA"THIS AREA IS KNOWN AS THE WINDOW"
609 DATA"ALL PRINT STATEMENTS ARE OUTPUT HERE"
610 DATA"THE WINDOW IS COMPRISED OF THE LOWEST THREE LINES OF THE TEXT SCREEN"
611 DATA"THE DRAWING AREA (above) IS 240*200  PIXELS:40*25 CHARACTERS
612 DATA"HIRES HAS SPECIAL COMMANDS APPLICABLE TO THIS MODE ONLY"
613 DATA"SOME COMMANDS ARE NO LONGER VALID AND WILL GENERATE ERRORS IF USED"
614 DATA"MEMORY ADDRESSES ARE ALTERED FOR THE  TWO CHARACTER SETS"
615 PRINT"PRESS T TO CONTINUE":REPEAT:UNTILKEY$="T":GOSUB9060
617 PRINT:PRINT"Typing HIRES gives access to the high resolution screen"
618 PRINT"Background is set to black,foreground white.There are 2 cursors,one ";
619 PRINT"which  appears in the window unless  we turn it off,and one which ";
620 PRINT"is a single pixeland is used within the drawing area"
621 PRINT:PRINT"8*8=64 PIXELS = 1 CHARACTER BLOCK":PLOT0,12,20:PLOT34,12,17
622 PRINT:PRINT"The window is used for outputting our PRINT statements"
623 PRINT"Also,in immediate mode commands are  displayed within the window"
624 PRINT:PRINT"WINDOW ADDRESS = 48999 - 49119":PLOT0,19,18:PLOT31,19,17
625 PRINT:PRINT"The text cursor (in the window) can be turned on/off with CHR$(17)"
626 PRINT"If CLS (clear screen) is used then  only the window is cleared"
627 GOSUB9000:CLS:PRINT:PRINTSPC(9)"THE HIRES SCREEN"
628 PRINT:PRINT"When HIRES is selected the window is  set to the colours of the ";
629 PRINT"text screen.":PRINT"After Hires has been selected any INK or ";
630 PRINT"PAPER commands change the colour ofthe drawing area and not the ";
631 PRINT"window":PRINT"Therefore using only INK and PAPER it is posible to obtain ";
632 PRINT"four differnt  colours.Two for the window,and two forthe screen
633 PRINT:PRINT"Any print statement will be displayed in the ink colour of the ";
634 PRINT"text screen  on the text paper colour before hires was selected"
635 PRINT:PRINT"Any characters placed on the screen  after hires was selected ";
636 PRINT"will be in  the colours specified after selection or if no colour ";
637 PRINT"commands are issued,  they will be white on black"
638 GOSUB9030:HIRES:PAPER6:INK4:CURSET120,100,1:FORX=1TO60STEP2:CIRCLEX,1
639 NEXT:PRINTCHR$(17)"PAPER6:INK4":PRINT"PRESS T TO CONTINUE"
640 REPEAT:UNTILKEY$="T":GOSUB9060
642 PRINT:PRINT"The small cursor can be moved around  the screen using two commands"
643 PRINT:PRINT"CURSETX,Y,number:CURMOVX,Y,number":PLOT0,7,18:PLOT34,7,17
644 PRINT:PRINT"The number following either of the twocommands is (0 - 3)"
645 PRINT:PRINTSPC(12)"0 = BGND COLOUR":PRINTSPC(12)"1 = FGND COLOUR"
646 PRINTSPC(12)"2 = INVERT COLOURS":PRINTSPC(12)"3 = NOTHING PLOTTED"
647 PRINT:PRINT"X,Y are the X and Y coordinates"
648 PRINT:PRINT"X is 0-239 (across):Y= 0 -199 (down)"
649 PRINT:PRINT"Point 0,0 is the top left-hand corner 199,239 is the bottom rAght"
650 PRINT:PRINT"CURSET uses absolute coordinates and  CURMOV is relative"
651 GOSUB9000:CLS:PRINT:PRINTSPC(9)"THE HIRES SCREEN"
652 PRINT:PRINT"If we type CURSET10,10,1:CURSET20,20,1the cursor will ";
653 PRINT"first be set at point 10,10 in foreground and then also at ";
654 PRINT"point 20,20 in foreground.What happensis that the two pixels ";
655 PRINT"corresponding  to the coordinates 10,10 then 20,20  are illuminated"
656 PRINT"The commands therefore use absolute  coordinates"
657 PRINT:PRINT"If we type CURMOV0,10,1::CURMOV20,20,1then things are different"
658 PRINT"First the cursor is moved 0 pixels  along the X axis and then 10 ";
659 PRINT"down the Y and this point is set in foreground (1 = foreground)
660 PRINT"Next,from this new point the cursor ismoved 1 along the X and 1 along";
661 PRINT" the Y simultaneously until the new specifiedpoint 20,20 is reacAed"
662 PRINT"This point is then set and we have 2  points illuminated"
663 :GOSUB9030:HIRES:PAPER6:INK4:CURSET90,70,1:PRINTCHR$(17)"CURSET90,70,1"
664 FORX=1TO60:CURSET90+X,70,1:PRINT"CURSET"90+X"70,1":WAIT50:CLS:NEXT
665 FORX=1TO60:CURSET150,70+X,1:PRINT"CURSET150,"70+X",1":WAIT50:CLS:NEXT
```

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666 FORX=1TO60:CURSET150-X,130,1:PRINT"CURSET"150-X",130,1":WAIT50:CLS:NEXT
667 FORX=1TO60:CURSET90,130-X,1:PRINT"CURSET90,"130-X",1":WAIT50:CLS:NEXT:CLS
668 HIRES:PAPER3:INK0:CURSET70,145,1:FORX=1TO120:CURMOV1,0,1
669 PRINT"CURMOV1,0,1":WAIT50:CLS:NEXT:CLS:FORX=1TO60:CURMOV-1,-1,1
670 PRINT"CURMOV-1,-1,1":WAIT50:CLS:NEXT:CLS:FORX=1TO60:CURMOV-1,1,1
671 PRINT"CURMOV-1,1,1":WAIT50:CLS:NEXT:GOSUB9060
673 PRINT:PRINT"Using CURSET,CURMOV to draw lines is not really economical and ";
674 PRINT"Oric has a command specifically for this purpose"
675 PRINT:PRINT"DRAWX,Y,number (0-3)":PLOT0,8,20:PLOT21,8,17
676 PRINT:PRINT"X and Y are the coordinates and the number sets fgnd/bgnd."
677 PRINT"CURSET is absolute but CURMOV and the DRAW command are relative ";
678 PRINT"so,we can use negative numbers for X and Y."
679 PRINT"Similarly for all three commands X and Y can be functions which ";
680 PRINT"equates to a number.The only precaution necessary is to make sure ";
681 PRINT"that we do not try to place the cursor off the screen area"
682 PRINT:PRINT"When using the DRAW command the cursor is updated to the point at ";
683 PRINT"which the line finishes."
684 GOSUB9000:CLS:PRINT:PRINTSPC(9)"THE HIRES SCEN"
685 PRINT:PRINT"CIRCLEX,Number (0-3)":PLOT0,3,18:PLOT21,3,17
686 PRINT:PRINT"The circle command allows us to draw circles on the hires screen"
687 PRINT"The number sets fgnd/bgnd.X is also a number which determines the ";
688 PRINT"radius in pixels.If X was 20 then a circle with a diameter of 40 ";
689 PRINT"pixels would be drawn"
690 PRINT:PRINT"When hires is entered the cursor is set at point 0,0 in b/gnd"
691 PRINT"To draw a circle of any radius we will have to ensure that the cursor ";
692 PRINT"is at a point which allows enough space for the circle to be ";
693 PRINT"drawn without leaving the screen"
694 PRINT:PRINT"The cursor position is not updated after the circle is drawn"
695 GOSUB9030:HIRES:PAPER0:INK2:X=180:Y=X:CURSET30,10,0
696 REPEAT:DRAWX,0,1:DRAW0,Y,1:DRAW-X,0,1:DRAW0,-Y,1
698 CURMOV2,2,0:X=X-4:Y=X:UNTILX=4:WAIT300
699 :HIRES:PAPER3:INK1:CURSET120,100,0:FORX=1TO99STEP2:CIRCLEX,1:NEXT
700 WAIT350:GOSUB9060
701 PRINT:PRINT"We have seen how our print statements are output to the window and ";
702 PRINT"it is not possible to print within the screen area"
703 PRINT"There is however a command that will achieve the same effect"
704 PRINT:PRINT"CHARA,B,number (0-3)":PLOT0,11,20:PLOT21,11,17
705 PRINT:PRINT"The number is f/gnd,b/gnd as usual. A is the ASCII code of the ";
706 PRINT"character to be displayed"
707 PRINT"If B = 0 then the standard character set character whose ASCII code ";
708 PRINT"is A is displayed":PRINT"If B = 1 then the alternate character with ";
709 PRINT"the code A is displayed"
710 PRINT"Either CURSET or CURMOV will normally be used in conjunction with ";
711 PRINT"the CHAR command.The cursor marks the top left-hand corner of ";
712 PRINT"the character to be printed"
713 :GOSUB9000:CLS:PRINT:PRINTSPC(9)"THE HIRES SCREEN"
714 PRINT:PRINT"Using CHAR the character is therefore displayed immediately below ";
715 PRINT"and to the right of the present cursor position"
716 PRINT:PRINT"Using a combination of CURMOV6,0,0 and CHAR allows us to output ";
717 PRINT"characters at the normal spacing on the hires screen along the X axis"
718 PRINT"Similarly CURMOV0,8,0 and CHAR would place one character immediately ";
719 PRINT"below another.":PRINT"The versatility of this command is the fact that ";
720 PRINT"if the cursor is moved with CURMOV or set with CURSET to a point ";
721 PRINT"which is less than six pixels from the previous point then the next ";
722 PRINT"character output with CHAR will overlap the one next to or above it"
723 PRINT"This allows multi-block characters to be formed without any spacing ";
724 PRINT"between the individual blocks"
725 GOSUB9030:HIRES:PAPER7:INK4:CURSET8,96,0:
726 FORS=6TO1STEP-1:FORX=1TO35:CURMOV5,0,0:CHAR96,0,1:PRINT"CURMOV"S",0,0";
727 PRINT":CHAR96,0,1":WAIT50:CLS:NEXTX:HIRES:PAPER7:INK4:CURSET16,96,0:NEXTS
728 CURSET8,96,0:FORS=6TO1STEP-1:FORX=1TO35:CURMOV5,0,0:CHAR96,1,1
729 PRINT"CURMOV"S",0,0:CHAR96,1,1":WAIT50:CLS:NEXTX:HIRES:PAPER7:INK4:
730 CURSET16,96,0:NEXTS:GOSUB9060
731 PRINT:PRINT"PATTERN":PLOT0,4,20:PLOT8,4,17
732 PRINT:PRINT"The pattern command allows us to use broken lines for the Draw and ";
733 PRINT"Circle commands thus creating patterns"

```



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734 PRINT"The command is PATTERN number (1-255)":PLOT15,9,18:PLOT37,9,17
735 PRINT:PRINT"The number we place after the pattern command is converted into ";
736 PRINT"binary.Each 0 in the number is b/grnd,and each 1 f/grnd"
737 PRINT"Eg 87=binary 01010111 so the pattern would be:-"
738 PRINTSPC(10)CHR$(34);CHR$(32);CHR$(45);CHR$(32);CHR$(45);CHR$(32);CHR$(45);
739 PRINTCHR$(45);CHR$(45);CHR$(34)
740 PRINT:PRINT"When Oric is switched on the pattern number is set to 255 (11111111)"
741 PRINT:PRINT"If a new pattern number is specified then this will remain until ";
742 PRINT"either we switch off,or until a new number is specified"
743 GOSUB9030:HIRES:FORP=5TO255STEP25:PATTERNP:PRINT"PATTERN"P
744 FORX=239TO0STEP-1:CURSETX,0,0:DRAW239-X*2,199,1:NEXTX:FORY=0TO199
745 CURSET0,Y,0:DRAW239,199-Y*2,1:NEXTY:WAIT25:CLS:HIRES:NEXTP:CLS
746 PRINT"PATTERN CAN BE USED PRIOR TO ANY DRAW OR CIRCLE COMMAND.":WAIT350
747 HIRES:PAPER7:INK1:FORP=1TO255STEP4:CURSET120,100,1:PATTERNP:PRINT"PATTERN"P
748 FORX=10TO46STEP2:CIRCLEX,1:NEXTX:WAIT100:CLS:HIRES:PAPER7:INK4:NEXTP
749 WAIT350:GOSUB9060
750 PRINT:PRINT"POINT":PLOT0,4,20:PLOT6,4,17
751 PRINT:PRINT"POINT allows us to test any single pixel on the hires screen."
752 PRINT:PRINT"The command is POINT(X,Y)":PLOT15,9,18:PLOT26,9,17
753 PRINT:PRINT"X and Y are the coordinates of the point to be tested.eg:"
754 PRINT:PRINT"P=POINT(80,60):PRINTP would return one of two values for p"
755 PRINT:PRINTSPC(10)"-1 = POINT IS FOREGROUND":PRINTSPC(10)" 0 = POINT IS BACKGROUND"
"
756 PRINT:PRINT"If we wanted to move characters or draw across the ";
757 PRINT"screen and then when a piece of foreground was encountered change ";
758 PRINT"direction then POINT would be used to test for this condition"
759 GOSUB9030:HIRES:DRAW0,199,1:CURSET239,0,1:DRAW0,199,1
760 FORN=1TO5:X=2:Y=INT(RND(1)*100)+50
761 REPEAT:CURSETX,Y,0:CHAR57,1,1:CHAR57,1,0:X=X+1:UNTILPOINT(X+6,Y)=-1
762 REPEAT:X=X-1:CURSETX,Y,0:CHAR70,1,1:CHAR70,1,0:UNTILPOINT(X-1,Y)=-1:NEXT
763 GOSUB9060
764 PRINT:PRINT"POINT is not capable of returning the ASCII codes or ";
765 PRINT"attribute values,and so for this purpose PEEK must be used"
766 PRINT:PRINT"HIRES SCREEN = 40960 - 49119"
767 PRINT" WINDOW = 49000 - 49119"
768 PRINT:PRINT"Attributes to control colour,size and flashing or steady can be ";
769 PRINT"placed in the window using POKE address,code"
770 PRINT"The code being a number between 1-31"
771 PRINT:PRINT"Escape codes are allowed with Print statements which ";
772 PRINT"will be displayed in the text window"
773 PRINT"The rules that apply to double size characters in Text mode also ";
774 PRINT"apply to the window"
775 PRINT:PRINT"Attribute tables were given in part 1 so they will not be repeated"
776 GOSUB9030:HIRES:FORN=1TO75:CURSET120,100,1:X=INT(RND(1)*90):Y=X-10
777 DRAWX,Y,1:CURSET120,100,1:DRAW-X,-Y,1:CURSET120,100,1:DRAW-X,Y,1
778 CURSET120,100,1:DRAWX,-Y,1:NEXT
779 PRINT"BACKGROUND ATTRIBUTES POKED TO SCREEN":FORX=40960TO49000STEP40
780 POKEX,INT(RND(1)*6)+1:NEXT:WAIT300:FORX=40961TO48961STEP40
781 POKEX,(23-16)*RND(1)+16:NEXT:CLS:PRINT"AND BACKGROUND ATTRIBUTES":WAIT300
782 CLS:PRINTCHR$(27)"RUSING";CHR$(27)"TESCAPE";CHR$(27)"UCODES IN";CHR$(27);
783 PRINT"QTHE";CHR$(27);"PWINDOW":WAIT300
784 PRINTCHR$(4);CHR$(27)"NJUST A TASTE IS ENOUGH TO STIMULATE";CHR$(4):WAIT500
785 GOSUB9060:PRINT:PRINT"FILL":PLOT0,4,20:PLOT5,4,17
786 PRINT:PRINT"The fill command allows attributes to be placed on the hires screen"
787 PRINT:PRINT"Command = FILL Y,C,att"
788 PRINT:PRINT"Y is a number equal to the number of rows down the Y axis from the ";
789 PRINT"current cursor position to be filled"
790 PRINT"C is a number equal to the number of character cells across the ";
791 PRINT"X axis to be filled"
793 PRINT"att is the attribute code ie a number between 1-31"
794 PRINT"The codes are the same as those used with the POKE command"
795 PRINT:PRINT"REMEMBER any attribute placed on the screen affects all positions ";
796 PRINT"to it's right unless another attribute is encountered first"
797 GOSUB9000:CLS:PRINT:PRINTSPC(9)"THE HIRES SCREEN"
798 PRINT:PRINT"Each character cell is 6 columns by 8 rows"
799 PRINT"Because we can fill 1 row at a time this gives a maximum of 200 ";

```

```

800 PRINT"attributesdown the Y axis,and 40 across the X"
801 PRINT:PRINT"However,caution must be exercised due to the fact that any location ";
802 PRINT"that contains an attribute will not"
803 PRINT"display our patterns or characters"
804 PRINT:PRINT"Similarly if characters or our patternoccupies any part of the ";
805 PRINT"2 left-most columns then any subsequent INK or PAPER command will ";
806 PRINT"overwrite them"
807 PRINT:PRINT"If an attempt is made to fill more locations than are available ";
808 PRINT"from the current cursor position to the edge ofthe screen along ";
809 PRINT"either axis or ":PRINT"diagonally then an error will result"
811 GOSUB9030:HIRES:FORX=0TO23STEP6:CURSETX,0,0:FILL199,1,(23-16)*RND(1)+16
812 NEXT:PRINT"FILLING ACROSS THE X AXIS":WAIT350:HIRES
813 PRINT"FILLING DOWN THE Y AXIS":FORX=0TO199:CURSET0,X,0:
814 FILL1,1,(23-16)*RND(1)+16:NEXT:WAIT350:CLS:PRINTCHR$(17)
815 PRINT"IF ALTERNATE LINES ARE FILLED WITH DIFFERENT COLOURS":WAIT350:CLS
816 PRINT"IT IS THEN POSSIBLE TO CREATE COLOURS OTHERWISE NOT DIRECTLY AVAILABLE"
817 WAIT350:CLS:FORF1=16TO23:FORF2=16TO23:FORY=0TO199STEP2:CURSET0,Y,0
818 FILL1,1,F1:CURSET0,Y+1,0:FILL1,1,F2:NEXTY,F2,F1
819 TEXT:FORX=1TO9:PRINT:NEXT
820 PRINT:PRINT"TO LOAD ORIC DEMO PART 3(B):-
821 PRINT:PRINT"TURN TAPE OVER AND REWIND TO BEGINNING"
822 PRINT:PRINT"PRESS KEY 'L' ON ORIC"
823 PRINT:PRINT"PRESS PLAY KEY ON RECORDER"
824 REPEAT:UNTILKEY$="L":CLS:WAIT10:CLOAD"ORIC DEMO PART 3B",S
8999 END
9000 A$="PRESS SPACE TO CONTINUE"
9010 PLOT7,26,A$:PLOT6,26,12:PLOT5,26,2
9020 REPEAT:UNTILKEY$=" ":RETURN
9030 A$="PRESS SPACE FOR DEMO"
9040 PLOT8,26,A$:REPEAT:UNTILKEY$=" "
9050 FORC=1TO38:PLOT6,26,32:NEXT:RETURN
9060 TEXT:POKE48001,4:FORX=1TOLEN(D$)
9070 POKE48011+X,ASC(MID$(D$,X,1)):NEXT:POKE48000,22:PRINTCHR$(17)
9080 PRINT:PRINTSPC(9)"THE HIRES SCREEN":RETURN

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ORIC ATTRIBUTES 3B

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825 PAPER0:INK4:A$="ORIC DEMO PART 3(b)"
830 HIRES:INK2:CURSET16,100,0:FORX=1TOLEN(A$):CHARASC(MID$(A$,X,1)),0,1
831 CHARASC(MID$(A$,X,1)),0,1:CURMOV11,0,0:NEXT
832 CURSET17,100,3:FORX=1TOLEN(A$):CHARASC(MID$(A$,X,1)),0,1:CURMOV11,0,3
833 NEXT:WAIT350:HIRES:A=1:PRINTCHR$(17)
834 INKA:CURSET60,40,1:X=120:Y=X:REPEAT
835 DRAWX,0,1:DRAW0,Y,1:DRAW-X,0,1:DRAW0,-Y,1
836 CURMOV2,2,0:X=X-4:Y=X:UNTILX=4:CURSET120,101,3
837 FORC=1TO59:CIRCLEC,2:NEXT:CURSET52,40,3
838 FORAT=1TO60:Z=INT(RND(1)*6)+1:CURMOV0,2,3:FILL1,1,Z:NEXT
839 A=A+1:IFA=8THENA=1:CLS
840 N=N+1:PRINT"PATTERN GENERATION":PRINT"PATTERN"N"OF 25"
841 IFN<25THEN834ELSE842
842 HIRES:AT=0:CURSET120,100,3:FORC=1TO99STEP4:CIRCLEC,1:NEXTC
843 FORP=0TO199:POKE40960+40*P,AT:AT=AT+1:IFAT=8THENAT=1
844 NEXTP:PRINTCHR$(17);"COLOUR CIRCLE":WAIT500:HIRES
845 PRINTCHR$(27)"BMADAME BUTTERFLY":CURSET0,0,0:FORX=0TO199:A=RND(1)*7+1
846 CURSET0,X,3:FILL1,1,A:NEXT:CURSET120,100,1:FORN=1TO75:X=(100-10)*RND(1)+10
847 Y=(50-10)*RND(1)+10:DRAWX,Y,1:CURSET120,100,1:DRAW-X,Y,1:CURSET120,100,1
848 DRAWX,-Y,1:CURSET120,100,1:DRAW-X,-Y,1:CURSET120,100,1:NEXT:WAIT300
849 HIRES:PRINTCHR$(27);"AALTERNATIVE MOIRE"
850 FORA=0TO223STEP2:FORB=0TO1:CURSET120,100,1:DRAW119-A-B,-99,B:NEXTB,A
851 FORA=0TO197STEP2:FORB=0TO1:CURSET120,100,1:DRAW-103,-99+A+B,B:NEXTB,A
852 FORA=0TO220STEP2:FORB=0TO1:CURSET120,100,1:DRAW-103+A+B,99,B:NEXTB,A
853 FORA=0TO197STEP2:FORB=0TO1:CURSET120,100,1:DRAW119,99-A-B,B:NEXTB,A
854 FORP=0TO7:PAPERP:FORB=0TO7:FORT=16TO22:IFB+16=TTHENT=T+1
855 FORS=40960TO49000STEP80:POKES,B:POKES+1,T:NEXTS:WAIT50:NEXTT,B,P:INK2
856 TEXT:PAPER7:INK4:POKE48035,0
857 PRINT:PRINT"          Standard      Alternate"
858 PRINT"Text   46080-47103  47104-47999"
859 PRINT"Hires  38912-39935  39936-40959"
860 PRINT:PRINT"When Hires is selected the character sets are shifted in memory"
861 PRINT"If a program is written where the textor lores screens are not used ";
862 PRINT",then if characters are to be re-defined the Hires addresses must ";
863 PRINT"be used":PRINT"If characters have been changed prior to Hires being ";
864 PRINT"selected,when Hires is entered the new characters will be"
865 PRINT"placed in the new locations and vice versa"
866 PRINT:PRINT"EDIT :Edit is a command which allows editing of a single program ";
867 PRINT"line when in Hires mode.The syntax is EDIT Line number"
868 PLOT7,26,"PRESS SPACE TO CONTINUE":REPEAT:UNTILKEY$=" ":CLS
869 PRINT:PRINT"GRAB and RELEASE"
870 PRINT:PRINT"When Hires is selected in order to obtain the resolution offered ";
871 PRINT"by this mode an extra portion of memory is assigned to the ";
872 PRINT"screen.The extra is a little short of 7k"
873 PRINT"If Hires was not required then the command GRAB could be used ";
874 PRINT"which,freesthis extra memory for our programs"
875 PRINT"RELEASE performs the opposite of GRAB ie reclaiming the extra memory"
```

DIARY OF AN ORIC OWNER CONTINUED by Kester Cranswick.

Knowing what the Oric can do is a long way from making it do what you want it to. I've realized that the Oric and its manual won't get me far in the world of computing without some outside assistance.

Computer magazines were the first avenue, and I bought them all. Any which had even the slightest reference to Oric ended up in my home, fodder for my growing appetite for information. Reviews, programs, letters, tips and advertisements were avidly devoured.

In retrospect, I wasted a lot of money. The reviews generally convinced me I'd made the right decision and pointed out machine faults I was too well aware of. The news of price cutting made me wish I'd waited a little longer before buying. The ads only served to stimulate an overwhelming desire to either take out a second mortgage or to get down to writing programs.

The short programs kept me buying magazines for quite a while. I came across half a dozen versions of city bombing, several light bike efforts, several centipede programs - all much the same, and few of any lasting appeal. I did learn how to get around the keyboard quickly and how to detect program errors easily. I only wished though that magazine staff would take the trouble to check all programs they publish. On more than one occasion I simply threw out magazines in disgust, after wasting hours trying to get a bugged program running correctly.

As for the readers letters, tips and articles on how to use the Oric, some of them were worth the cost of a magazine. Still, I did begrudge spending the best part of the cost of a pint for perhaps a page or two of information. What I do now is forget the games programs, and only buy a magazine if it has a useful utility program or tip. Two minutes browsing fills me in on any news, and I can spend my money on better things than magazines.

'Oric Owner' seemed an exception to this rule. It's not cheap at £10 for six copies, but it's not too bad. Too much space is devoted to patronising interviews with Oric men; the news is old hat by the time I read it and the user features often rehashes of the manual, or Sinclair's book. The Captain Tanex cartoon is puerile.

That leaves the programs. They vary in quality, but a couple are usually worthwhile. Has anyone debugged Oric-Trek, from the first issue, yet? At the price, value for money is poor, but the Oric addict will find the plums in it outweigh the surrounding dross.

Books are a better buy. I've got them all, hoping to satisfy my data diet. Luckily the Oric has only a few tailored works - if I was a Spectrum owner, I'd be bankrupted by books.

I started off simply with 'The Computer Book' from the BBC. It is as good an introduction to computing as any, well written, informatively illustrated and not heavy going. Although relevance to the Oric is limited, it strips away much of the mystique of the computer, gives a good grounding in how the machines work and how they're affecting us. The chapters on programming were superfluous, as I'd already read the manual. Borrow this book if you can; at £6.75, it is an expensive light read.

'30 Hour Basic' is another BBC book, priced at £5.95. Again, though not tailored to the Oric, it is an excellent introduction to programming skills and the BASIC language, written at level 1, as a beginner, could appreciate.

The exercises really did make sure I'd grasped ideas. All the programs ran on my Oric with the exception of those in the final chapters on file handling. I soon got to grips with writing simple programs. Much of the ground is covered in the Oric manual of course. The difference is that here I was encouraged to try programming for myself, and the explanations of concepts are more detailed. If you are starting off in programming, '30 Hour Basic' is well worth its modest price.

The next addition to the library was Ian Sinclair's 'The Oric-1', £5.95 from Granada Publishing. It was the first book tailored to the Oric available. Overall, it is useful, though much of it is a repeat of the manual.

The style is basic, with many demonstration programs that kept me tapping merrily away at the keyboard. Sinclair's aware of some of the bugs, but gives no tips on curing them. "Wait for improved versions," he writes. TAB seemed to work on his Oric - it doesn't on most!

The first five chapters repeat the manual - adding useful CONTROL and ESC code tables. The best chapters deal with writing programs, graphics, creating characters and sound - areas the manual is not much help on. If, as I, you want to write your own programs, the Sinclair book is essential reading.

Not so is the second tailored book, 'Games for your Oric' by Peter Shaw and £2.95 under the Virgin banner. The low price is its only virtue.

The problem with program book is that it is difficult to judge the quality of the programs without trying them out. This book has 21 programs in all. The three best just demonstrate the Oric's graphics capabilities. The games are a mixture of strategy and shoot 'em/catch 'em types. There's also a hellishly long adventure game, The Riddle of the Black Chateau.

The kindest comment about the games is that they're easy to type in. Several had bugs, none had on-screen instructions, many used odd keys as controls and many had no quit feature. There are Pac Man, Bomber, Frogger, Light Bike and many other popular games - all of the same low quality. The adventure game is boring and not worth the effort of typing in. The other games get tedious after a few plays and make the magazine programs seem arcade-standard. So far, this is the only Oric-based book that really belongs in the bin. Don't be taken in by the back cover blurb.

All this time spent typing in programs made Oric distinctly unwelcome in the living room. It had ousted J. R., The Prisoner and The A Team at a stroke. A move was in order. So, a local paper small ad led to a used 12in black and white TV for a reasonable price. I may not have colours in the computer room, but I have a lot less hassle and for typing in programs, I don't need colours. The Oric stays permanently connected up too, so there's less wear on sockets. A cassette rack, a spare drawer, looseleaf folders and two feet of shelf space make the study an effective computer room. That's the first sign of Oric addiction - giving it a room of its own. What it needs now is some good programs, and I've got a few more books to provide those.

Oric Specs

Oric-I Machine Code Routines

I/O Routines

VDU (address BASE + 0)

Call parameters - X = Character to print
Return parameters - None
Registers corrupted - None

Prints the character on the screen and moves cursor right.

Control codes have the following meanings.

CONTROL Code Instruction

CTRL D	Auto Double height toggle.
CTRL F	Keyclick toggle.
CTRL G	Bell.
CTRL H	Cursor left.
CTRL I	Cursor right.
CTRL J	Line feed (Cursor down).
CTRL K	Cursor up.
CTRL L	Clear screen.
CTRL M	Carriage return.
CTRL N	Clear row.
CTRL Q	Cursor on/off toggle.
CTRL S	VDU on/off toggle.
CTRL T	Caps lock toggle.
CTRL]	Protect cols 0,1 toggle.
Escape	Turns following character into a control code.

GTORKB (address BASE + 2)

Call parameters	None.
Return parameters	X = ASCII Character Sign flag + Ve no character. - Ve valid character.
Registers corrupted	X.

Characters are returned at the current repeat rate. The repeat rate is determined by locations 216 and 217. Location 216 is the delay before a key starts repeating in units of 30 ms. Location 217 is the time between successive characters when the keyboard is repeating in units of 30 ms. To get characters at maximum rate, set locations 216 and 217 to zero.

PRTCHR (address BASE + 4)

Call parameters	A = ASCII character.
Return parameters	A = 0 OK.
Registers corrupted	A, X, Y.

CASSETTE ROUTINES

For all cassette routines the current speed is governed by location 215. 0 Fast. CTRL 0 Slow.

OUTLED (address BASE + 6)

Call parameters	None.
Return parameters	None.
Registers corrupted	A, X, Y.

Outputs leader (9 chars of ASCII SYN) to tape at current speed.

GETSYN (address BASE + 8)

Call parameters	None.
Return parameters	None.
Registers corrupted	A, X.

Syncs to a file at current speed.

OUTBYT (address BASE + \$0A)

Call parameters	A = output character.
Return parameters	None.
Registers corrupted	A.

Output a byte to tape at current speed.

RDBYTE (address BASE + \$0C)

Call parameters	None.
Return parameters	A = input character.
Registers corrupted	A.

Reads a byte from the cassette at current speed.

GRAPHICS

All graphics routines parameters are passed in an area of memory starting at \$2E0. Parameters are always 2 bytes long and the LSB is first. The parameter area address will be referred to as PARAMS. On return PARAMS + 0 is set to 1. Calling routines should set PARAMS + 0 to 0 before calling.

CURSET (address BASE + \$0E)

Call parameters	PARAMS + 1 X Value. PARAMS + 3 Y Value. PARAMS + 5 FB Value.
Return	PARAMS set to 1 if out of range error.
Registers corrupted	A, X, Y.

CURMOV (address BASE + \$10)

Call parameters	PARAMS + 1 X Value. PARAMS + 3 Y Value. PARAMS + 5 FB Value.
Return	PARAMS set to 1 if out of range error.

DRAW (address BASE + \$12)

Call parameters	PARAMS + 1 X Value. PARAMS + 3 Y Value. PARAMS + 5 FB Value.
Return	PARAMS set to 1 if out of range error.

CHAR (address BASE + \$14)

Call parameters	PARAMS + 1 ASCII Char (in LSB). PARAMS + 3 Char set 0 Std - 1 Alt. PARAMS + 5 FB Value.
Return	PARAMS set to 1 if out of range error.

CIRCLE (address BASE + \$16)

Call parameters	PARAMS + 1 Radius. PARAMS + 3 FB Value.
Return	PARAMS set to 1 if out of range error.

PATRN (address BASE + \$18)

Call parameters	PARAMS + 1 Pattern Value.
Return	PARAMS set to 1 if out of range error.

POINT (address BASE + \$1A)

Call parameters	PARAMS + 1 X Value. PARAMS + 3 Y Value.
Return	PARAMS set to 1 if out of range error. PARAMS + 1 0= Bgrd 1= Fgrd.

FILL (address BASE + \$1C)

Call parameters	PARAMS + 1 No. of rows. PARAMS + 3 No. of cells. PARAMS + 5 Value.
Return	PARAMS set to 1 if out of range error.

PAPER (address BASE + \$1E)

Call parameters	PARAMS + 1 Colour.
Return	PARAMS set to 1 if out of range.

INK (address BASE + \$20)

Call parameters	PARAMS + 1 Colour.
Return	PARAMS set to 1 if out of range.

SOUND ROUTINES

These use the same parameter passing routines as the graphing routines.

PING (address BASE + \$22)

SHOOT (address BASE + \$24)

EXPLD (address BASE + \$26)

ZAP (address BASE + \$28)

KBBEEP (address BASE + \$2A)

.....gives a beep as for keyclick on a normal key.

CONTBP (address BASE + \$2C)

.....gives a beep as for keyclick on a control key.

SOUND (address BASE + \$2E)

Call parameters PARAMS + 1 Channel.
 PARAMS + 3 Period.
 PARAMS + 5 Volume.
Return PARAMS set to 1 if out of range.

MUSIC (address BASE + \$30)

Call parameters PARAMS + 1 Channel (1-3).
 PARAMS + 3 Octave (0-7).
 PARAMS + 5 Note (1-12).
 PARAMS + 7 Volume (0-15).
Return PARAMS set to 1 if out of range error.

PLAY (address BASE + \$32)

Call parameters PARAMS + 1 Tone channel.
 PARAMS + 3 Noise channel.
 PARAMS + 5 Envelope mode.
 PARAMS + 7 Envelope period.
Return PARAMS set to 1 if out of range error.

W8912 (address BASE + \$34)

Call parameters A= 8912 register No.
 X= Output data.
Return parameters None.
Registers corrupted A, X, Y.

Writes the data in X to the 8912 register specified in A. Ensures that keyboard port is kept enabled. Register \$OE should not be addressed as this is the internal port used by the keyboard.

ARCHITECTURE

The address map is very simple being split into only three areas. Locations from C000 to FFF are ROM and from 0 to BFFF RAM with the exception of 300 to 3FF which is dedicated to I/O. In the 16K model RAM is repeated three times, i.e. any RAM location is not unique, it will also exist in the two reflected areas. In order to modify the address map for external hardware expansion a few control signals have been made available. These are I/O, I/O CONTROL and MAP, all three being active low.

I/O: An output signal which indicates that an address in the range of 300 to 3FF is on the bus.

I/O CONTROL: An input signal which should be driven by an open collector or open drain device.

MAP: An input signal which should be driven by an open collector or open drain device.

To expand the I/O is very simple. The I/O signal indicates when an I/O address is being generated and, as can be seen from the circuit diagram, enables the CS* of the internal 6522. If the CPU is addressing the 6522 which is in the range 300 to 3FF then I/O CONTROL should be left alone. If the address is for an externally designed peripheral then this peripheral should activate the I/O CONTROL input which, referring to the circuit diagram, disables the internal 6522 by taking its active high chip select low. ORIC designed peripherals will have their I/O address located at the bottom of page 3 in the address map, i.e. 300 upwards. Users or peripheral manufacturers should allocate their I/O addresses starting from 3FF and moving downwards, this way there will be some time before a conflict exists.

MAP operates in a somewhat peculiar manner, but there is some sense to it when it is fully understood. The purpose of this signal is to modify the operation of the internal RAM and ROM and also to allow the use of external memory. It works in two different ways depending upon whether the address bus is selecting the top 16K, i.e. C000 to FFFF (the ROM area) or the RAM area 0 to BFFF excluding, of course, I/O at 300 to 3FF in which range it should not be used. If the ROM area is being accessed when MAP goes active then the internal ROM is disabled and internal RAM enabled giving up to a full 64K RAM with the 48K model. This feature is used by the ORIC Microdrives. If RAM area is being accessed when MAP is driven active then the internal RAM is disabled and external memory, be it RAM or ROM, may occupy the CPU's data bus. Thus, additional ROM's and paged RAM may be designed on to the ORIC-I's expansion socket. Timing of the MAP signal is important in both cases, it should be an active low pulse approximately 250ns wide and should commence approximately 80-100ns preceding the rising edge of 02.

CIRCUIT DESCRIPTION

The entire PCB is powered by a simple 5 volt supply, provided by an external unregulated DC supply (the power pack) and a 7905 voltage regulator. Many users may already know that the 7905 is a negative voltage regulator, this does not matter provided that the DC supply is floating. The advantage of using the 7905 is that it only requires a 1 volt headroom, unlike the 7805 which requires 2 volts.

IC7 is the gate array (or as some prefer to call it - a ULA) which is essentially a CRT controller, but it also handles the very intricate timing of the 64K DRAM's and provides address mapping. Internally the gate array generates video refresh addresses and reads RAM data, decodes attributes where applicable and generates a serial video bit stream from the R, G and B outputs. These RGB outputs couple with SYNC are buffered by IC22 and connected to SK1 via 220R series resistors. When terminated with 75R, a simple calculation reveals that approximately 800 MV into 75R is available. Unterminated, TTL levels are available. R, G, B and SYNC also feed the digital PAL encoder consisting of IC23, IC24, part of IC25, IC26 and IC27. IC23 is a ROM which contains a number store driving a very simple 4 bit D to A converter made up of a resistor array. IC25 generates a twice subcarrier frequency of 8-8672375 MHz which is divided and split into two 4.43 MHz clocks in quadrature. IC27 divides SYNC by two and provides the PAL switch. IC26 uses SYNC to generate a correctly positioned colour burst flag.

Sound is provided by IC4 and a small amplifier IC2. IC4 cannot be directly connected to a 6502 bus (at least easily) and is, therefore, connected to port A of the 6522 (IC6). Data transfers are controlled by BC1 and BDIR of IC4. The current output of IC4 is converted to a voltage by R4 and attenuated by R2 and R3 as the LM386 has a fixed voltage gain of 20. Latter models have a 22K resistor connected between pin 3 of IC2 and GND to prevent any build up of charge on C4 due to sometimes large input currents. This can be connected into the cassette lead of earlier machines if necessary.

The keyboard interface uses the I/O port built into the 8912 (IC4). A matrix of keys exists on the keyboard PCB with columns directly connected to IC4 and rows decoded by a 4051 controlled by three address lines AD0, AD1 and AD2 which are formed from part of port B. TR2 buffers the data line from the keyboard PCB.

Port A of the 6522 is multiplexed between the 8912 and the printer port. Printer strobe and acknowledge signals are provided by PB4 and CA1. Data on port A is therefore directed to the printer or the 8912 depending on which control lines are active.

System reset is provided by C21 and RP1 providing a very simple means of generating a power up strobe. Timing here is important as the power and 12 MHz clock must be fully operational before RST becomes inactive. For this reason, IC21 must be National Semi-conductor as rapid clock startup is assured. It is best to reset the computer using the power connection on the rear of the ORIC as this provides a rapid build up of the 5 volt supply. Using the mains switch on the wall socket provides only a slow build up of the 5 volt supply due to the large reservoir capacitor in the power pack charging up.

CASSETTE INTERFACING

ORIC's cassette interfacing is an implementation of that used on the Tangerine microtan system and has been field proven over more than three years and shown to be very reliable. Two speeds have been included for good reason. In FAST mode, the data transfer rate to and from the cassette is 2400 baud which is twice as fast as most other micros and has the obvious benefits of much quicker program loading. It is very reliable, provided a good quality cassette tape is used (to avoid drop-outs) and that loading and saving are performed on the same cassette recorder. This is, of course, the case with the end user.

However, when transferring programs from one machine to another (as is the case when using proprietry software) this is not the case and loading tapes in the FAST mode can be troublesome. Media transfer, that is swapping programs with other users or buying software cassettes, should be performed using the SLOW mode which was designed specifically for this. In SLOW mode, the ORIC checks each bit loaded a few times and makes a decision on a logic one or zero according to the average of a number of cycles of the carrier tone. This way, a few tape drop outs can be tolerated without loss of data. This is a very reliable method and communications engineers will understand this as "redundancy". Once a tape has been loaded in the SLOW mode it can always be dumped in the FAST mode on the users own cassette recorder. The SLOW mode is also a great comfort to anybody storing large quantities of valuable data who wish to keep backup copies. Once the purpose of the two speeds is understood, it is clearly a very good system and offers the best of both worlds when most other micros provide only a compromise between the two.

For those users who are experiencing difficulties in the cassette interface - a few hints:

The circuitry of the cassette interface is very simple indeed. For TAPE OUT the counter timers in the 6522 are used to generate the pulse stream, which is attenuated by R12 and R13 to approximately 150 MV peak to peak and shaped by C7. TAPE IN also uses the counter timers in the 6522, but this time to measure pulse widths. IC3 is a dual op-amp and converts the audio signal into a TTL signal. The first stage is a unity gain inverting buffer amplifier (in at pin 2 and out at pin 1). The second stage is a positive feedback amplifier providing about 50 MV of hysteresis. TR1 provides buffering to the 6522. TR3 is a driver for the remote control relay.

PICTURE QUALITY

There are two adjustments which affect the picture out of the UHF modulator. RV1 controls the bias on the composite video signal feed into the UHF modulator. Incorrectly set in one direction and SYNCs are compressed, causing the picture to jump out of line hold and frame hold. Incorrectly set in the other direction and compression of the video takes place causing yellows to turn white etc. The best way to adjust is to use the yellow PAPER and adjust RV1 until it just starts to turn white.

The other adjustment is the frequency of the colour subcarrier controlled by CV1. First and foremost, it must be within a small tolerance of the correct frequency of 4-43361875 MHz. Also important is its relationship with the video line frequency, which itself is derived from the 12 MHz clock. If the relationship is incorrect or too far out then colour fringing occurs on vertical boundaries and on text. This adjustment should be made when the ORIC has reached its normal working temperature, the correct position being the one that gives the best colour picture.

WANTED

ARTICLES PLEASE

If you're a beginner with something to ask or say...

OR

If you're an experienced user with something to teach or stimulate others with...



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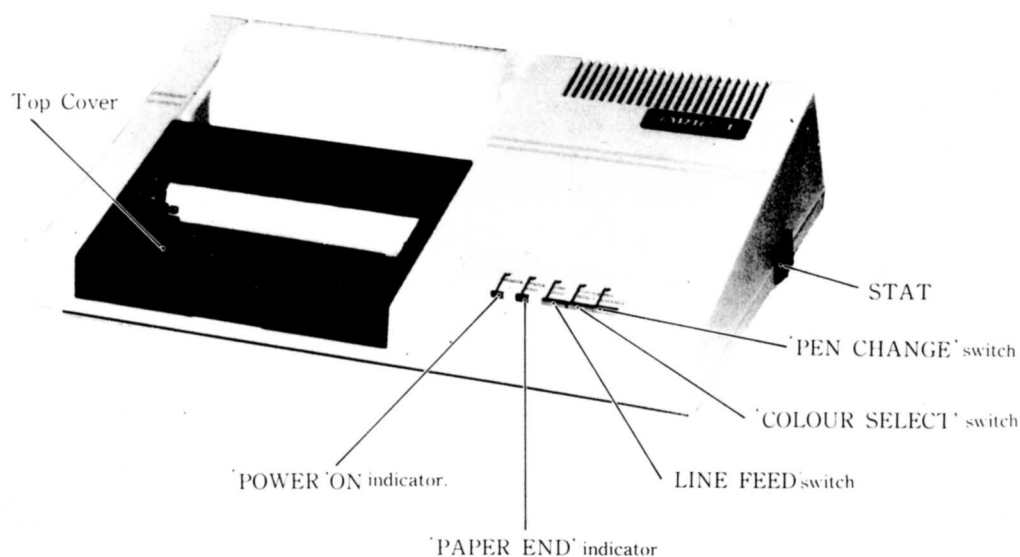
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ORIC MCP40 COLOUR PRINTER/PLOTTER

COMPETITION

HOW TO ENTER

This competition is based upon the popular 'Hells Temple' fantasy adventure program produced by the sponsors of this competition. The winner of the competition will receive an Oric MCP40 Colour Printer/Plotter. Open to all members of the Oric Owners Users Group and those who dwell in the dark places of adventures!



HOW TO WIN

Can you destroy MORRIGAN the ultimate terror from the depths of Hells Temple. If you think you can, then send to us the following:-

Details of the position of play at that time, Combat conditions at the time of play including your Spell Power, Strength and the amount of Gold accumulated at the point at which you encountered Morrigan. Also at what level within the catacombes you found Morrigan lurking and the method of destruction used whether by Spellpower or Combat.

Support your entry with a Screen Photograph of Morrigan's destruction and the end results of the encounter.

Also, tell us in not more than one hundred words why you would like to receive an Oric printer.

THE RULES

All entries must be received by us not later than Monday 20th February 1984 and those entries received will be subject to the following conditions:-

That all entrants must be Bona-Fide members of the Oric Owners Users Group.

The winner will be selected from the first entry considered by the judges to be the most suitable results.

The winner of the competition will be announced in the March edition of Oric Computing.

Sponsored by Kenema Associates Ltd.



ORIC SOFTWARE STATION

Issue 1	COWORTH PARK HORRORS	£3.00
Issue 1	ORIC ATTRIBUTES IN ACTION PARTS 1 - 2	£3.00
Issue 2	YAHTZEE	£3.00
Issue 2	MASTERMIND	£3.00
Issue 2	ORIC ATTRIBUTES IN ACTION PARTS 3 - 3B	£3.00

CHOOSING A HOME MICRO



Choosing a home micro can be a daunting task to the newcomer, and with an ever increasing number of micros emerging on the market, even up-grading, say, from a ZX81 can be a risky and expensive exercise if the wrong decision is made. It is important to look at the real facts and specifications, and check exactly what you get for your money before choosing your micro-computer system.

THE PITFALLS

"DON'T LET THE ADD ONS ADD UP"

A number of large companies are offering packages that seem to be good value and low cost. These offers usually have a hidden sting inasmuch as the essential accessories such as connection leads, peripherals and software often carry very high cost premiums. e.g. software for low cost hardware usually costs between £29 and £49 for a ROM cartridge!!

CHECK THE QUALITY OF THE PRODUCT.

Raw materials are now an area where corners can be cut, and shoddy workmanship during 'building' can effect the 'up-time' of your unit. Areas to watch out for are unreliable edge connectors, corrosion and poor quality P.C.B.s. Low quality components and bad design will seriously effect the reliability of the end product, and can lead to false economy.

DON'T BUY A GAMES MACHINE

Unless you want just games and nothing else! With a games computer you are limited. Some computers, however, have the advantage of both games facility plus the whole world of computing to explore, as your interest and skills develop. A real computer system will allow you to expand your knowledge of the Hi-Technology world, and help earn its keep with its added uses in the field of education, communication and home business use.

SOFTWARE

Make sure the system you choose has a growing library of support software, to enable you to realize the full potential of your machine.

KEY POINTS TO LOOK FOR

● High Resolution Colour

In general most home computers have a poor graphics resolution (or detail). Check on the vertical and horizontal resolution in graphic mode and multiply the two numbers together. If the result is less than 35,000, then the graphics can hardly be considered high resolution. Without high resolution graphics displays such as those used in games tend to be "Chunky" in appearance.

● High Quality Sound

Some computers claim to provide a sound channel when in reality all that can be found inside the computer is a small buzzer controlled by electronic pulses. At the very least a sound facility should provide more than one channel and a raise channel as well (for gun shot effects in games for example). The best systems also provide envelope control of the sound channels to produce very sophisticated effects; very important for generating music. Also look for the ability to connect to external amplifiers.

● Keyboard

For accurate entry of programs and data into a computer it is important that the keyboard has a good tactile feel in operation. Coupled with acoustic feedback the user is fully aware when the computer has accepted his/her actions. Also of importance in a keyboard is layout. A standard computer keyboard layout will familiarise the user with the vast majority of computers used in the world of business and professional applications; very important if the purpose of purchasing a computer is educational.

● RAM

One of the most important features of a computer is the amount of RAM, or memory, included. In general the more powerful and exciting a computer program is the more RAM it requires. But take care, all computers are advertised quoting the total RAM used in the system. Computers use up a great deal of their own RAM for storing essential data and particularly in supporting the graphics display and the CPU. If it is less than 32K think again, is it enough?

● Computer Language

It is too difficult to program a computer in its own binary language so high level languages are used, the most popular being BASIC. However, there are a number of BASICs, some being very different from the rest. A de facto standard in the computer industry is Microsoft BASIC. Learn this one and you will be able to program in the majority of computer BASICs; such an important point if a home computer is to be used to educate your children to face the technology of the future.

● Expansion

As your interest and knowledge of computing grows, you will need a



Choosing the right system carefully will save you from throwing your money away. Check full specification, plus peripherals and software prices, before you buy. Preferably choose a Real computer system that can expand to meet your needs.

computer system that will grow with you; able to accommodate Printers, Disk-drives, Joysticks, Communications Modem, and Colour Monitor, as well as produce HI-FI sound effects.

● Software

The computer you choose should have a growing selection of utility

software to make the most of its capability. Remember, computing is here to stay. You can't learn to compute on a toy, or a device which does not behave like a real computer. In short, look out for a computer which offers all the points above, and you will be sure of getting the best value for money.

To find out which company offers you the right choice, with:-

- Good value, high specification, quality micros.
- A quality, 4 colour, plain paper printer/plotter.
- Communications Modem.
- Micro Disk Drives.
- Comprehensive and growing range of software

TURNOVER... ➔



The Growing System

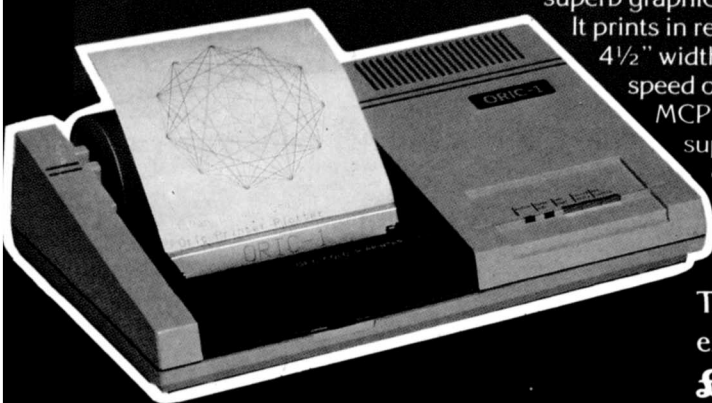
ORIC 3" MICRO FLOPPY DISK DRIVE

Coming soon the incredible new 3" Oric Micro Drives. Small size, Compact, High precision disks with storage capabilities from 100K Bytes to in excess of 1 Megabyte unformatted. With their own built-in power supply, these easy to use units will add big system capability to your home micro.

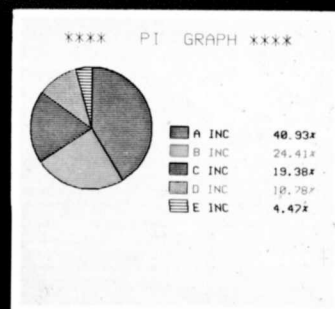


ORIC MCP 40 COLOUR PRINTER/PLOTTER

The Oric Colour Printer is quality engineered to provide 4 colour hard copy on plain paper, with superb graphics and text capability, printing either 40 columns or 80 columns. It prints in red, green, black and blue, onto a 4½" width standard paper roll. With a print speed of 12 characters a second, the MCP 40 comes with its own power supply and all necessary leads to connect straight into your Oric or to any standard Centronics interface.



This superb printer represents excellent value at just
£169.95 including VAT.



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The right choice for real computing

ORIC-1

Before making your final choice, check any other home micro in the same price bracket, against the incredible specification of the ORIC-1.

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Choice of 16K or 48K RAM		Real computer language programming – Basic/ Forth	
Latest design technology and circuitry		Teletext/Viewdata compatible graphics (28 rows x 40 characters)	
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Centronics printer interface		Fully supported and growing software library	
Colour printer / Disk Drives		A fully expandable system for home, education & small business use	
Communications Modem		Full range of peripherals to support your system...	

ORIC-1 Setting today's standard in Quality and Price.

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All ORIC computers purchased before 31st December 1983 come with a **£40** voucher off the M.R.P. of the MCP 40 Colour Printer. **MCP 40 COLOUR PRINTER £169.95. OFFER PRICE £129.95**

ORIC Software

The fast growing success of ORIC-1 means that an incredible number of software titles are becoming available for your Oric. With many well known titles from independent software houses, plus exclusive ORIC SOFTWARE from TANSOFT, you can now drive your Oric towards its full potential.

Below is a small selection from Tansoft's range, all of which offer superb value.

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TANSOFT ORIC SOFTWARE available from your ORIC supplier and all good software dealers. For full list of further information contact:-

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THE MIKE BROWN REPORT

I was delighted to receive the new 'Oric Computing', what an excellent start to have made with Doppie-Ganger's "Pallida Mors" or as otherwise known "Coworth Park Horrors". It is reassuring to know that it is available on cassette at a realistic price, although I am tempted to key it in myself as I feel that a thorough understanding of its construction would enable me to go on to produce an adventure of my own (or at least based upon Robert Heilein's "Glory Road", (Don't Panic!).

As someone who bought his 48K Oric-1 (Prototype Oric-2!?) a few months ago, (just before they started giving away the printer vouchers!) I thought perhaps other readers might be interested in a few observations:-

1. The Manual:-

I have heard so many grizzles about it, but I don't see why. Admittedly it is not fully comprehensive, but have you seen the BBC's manual? I would never be bothered to plough through all that! Surely the whole joy of home computing is to fiddle and find out for ourselves.

2. The Modulator:-

I have an Oric with the two twiddly 'Tweakers' underneath, which I understand is one of the more recent type, but on most peoples telly's it still leaps about most embarrassingly when the speaker makes any kind of noise. It seems that the level of the frame sync pulses is too low, but in any case the RF output voltage is barely adequate. Jap telly's seem to cope better than most. I have a Panasonic that's really cool about it. Incidentally, after I lost the RF output lead, I made my own from Low-Loss Co-Ax and it's much better, the only problem was fitting the phono plug on the end of the big butch wire. Who's idea was it that computer RF outputs should be on phono's?, seems cretinous to me. Anyway, there doesn't seem to be any excuse for these shortcomings in the modulator, but we seem to be stuck with them. I wholeheartedly agree with R. Kimberly's comments on p3 of


issue 1. but a more constructive note for the future, would it be so difficult for Oric to include a composite PAL video output on future models? (It could also be fed into the auxiliary input of Video recorders)

3. Display Handling:-

Hardly anyone seems to have got this together at all, Oric is capable of the same standards of display as Ceefax/Oracle, but you would never have guessed it. I get the impression that most professional software houses are happy just to get their programs running and leave it at that. Text is usually badly justified and game displays often look like electronic betting slips! Good software should be durable and attractively presented, but in my view it rarely is. To illustrate this last point I enclose a couple of programs I have written myself. Mastermind 2 is so called because it evolved from an earlier colour-based program. Yahtzee is a program I am particularly proud of as it is the first program I have written entirely on my own. The computer is giving Yahtzee a new lease of life, as it saves you all the trouble of throwing the dice, writing down the scores, and finally adding them up (usually wrongly!). Unlike other versions published elsewhere, this version is not converted from a program written for another computer. I hope others find this game as addictive as my friends and I do. Each program is completely self contained, with full instructions, and I believe they go some way towards exploring the display capabilities of the machine. The programs were written on the 48k Oric, but I guess that they will fit into the 16K versions with few changes. Anyway, Good Luck with the new magazine, I hope others take the time to write and contribute a few programs or ideas. Despite the old Rom bugs we have a very good computer and with everyone's help we can promote the spread of the better, more attractive programs.

P.S. Did you hear the one about the village idiot who thought that Sinclair computers had a Single Key entry system?

» »




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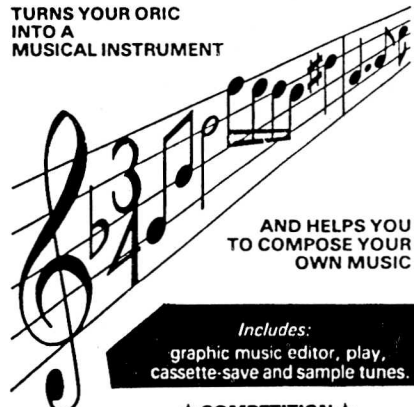
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Details on cassette insert.

YAHTZEE

```

~
10 REM =====
11 REM: Oric YAHTZEE
12 REM: Written by MIKE BROWN
13 REM: Started 8/11/83
14 REM: Completed 22/11/83
15 REM =====
20 C$=CHR$(27)+"P"+CHR$(27):D$=CHR$(4):E$=CHR$(27)
25 FORA=47072T047079:READB:POKEA,B:NEXTA:DATA8,8,8,8,42,20,8,0
30 FORA=47088T047095:READB:POKEA,B:NEXTA:DATA0,0,63,63,63,63,0,0
35 FORP=1T04:READX(P):NEXTP:DATA27,31,35,39
40 REPEAT:L$=L$+CHR$(126):UNTILLEN(L$)=38
50 DIM CHECK(13,4):MESSAGE=2300
60 FORA=0T039:POKE48000+A,32:NEXTA:CLS:PAPER0:INK6:POKE618,3
65 PRINTC$"A"L$D$,:PRINTC$"D"E$S"E$J Oric YAHTZEE":PRINTD$:PRINTC$"A"L$;
70 POKE616,25:PRINT:PRINTC$"A"L$,:PRINTC$"D"E$SWritten by MIKE BROWN, November 1983";
80 POKE616,7:PRINT:PRINTD$E$J"E$B Hello..."
82 PRINT:PRINT:PRINT:PRINTC$"J Do you want to read"
84 PRINT:PRINTC$"J the INSTRUCTIONS ?"
86 PRINT:PRINT:PRINT:PRINTC$"J"E$G [Y/N] ";
90 REPEAT:GETA$:UNTILA$="Y"ORA$="N":CLS:IFA$="N"THEN150
100 GOSUB4000:GETA$:REM INSTRUCTIONS
110 GOSUB5000:GETA$:REM SCORE-CARD 1
120 GOSUB6000:GETA$:REM MORE DETAILS
130 GOSUB5000:GETA$:REM SCORE-CARD 2
150 GOSUB3000 :REM INITIALISING
160 GOSUB2400 :REM GAME DISPLAY
200 REM -----
201 REM: MAIN GAME LOOP
202 REM -----
210 FORG=1T013
220 :FORP=1TONP
230 : GOSUB1000 :REM ROLL THE DICE
240 : GOSUB1250 :REM CHECK & SCORE
250 : GOSUB2100 :REM DISPLAY SCORE
260 : GOSUB2200 :REM AWARD BONUS ?
270 :NEXTP
280 NEXTG
290 REMARKABLY SIMPLE REALLY!
300 REM -----
301 REM: END OF GAME
302 REM -----
310 PLOT28,1," "
320 IFNP=1THENMS$="ANOTHER GAME ? [Y/N]":GOTO400
330 TS=0
340 FORP=1TONP
350 IFSC(P)>TSTHENWINNER$=NM$(P):TS=SC(P)
360 NEXTP
370 MS$="Well done "+WINNER$+" - ANOTHER GAME ? [Y/N]"
400 GOSUB MESSAGE
410 REPEAT:GETA$:UNTILA$="Y"ORA$="N"
420 IFA$="Y"THEN150
430 MS$="OK. Be seeing you...":GOSUB MESSAGE
440 WAIT150:FORA=0T039:POKE48000+A,32:NEXTA:CLS:POKE618,3
450 END
1000 REM -----
1001 REM: ROLL THE DICE
1002 REM -----
1005 A$="":R$="":T=0:FORN=1T05:HOLD(N)=FALSE:NEXTN

```

```

1010 PLOTX(P)-2,3,124 :REM ( )
1020 G$=STR$(G):G$=MID$(G$,2)+"/":PLOT37-LEN(G$),1,G$
1030 REPEAT:T=T+1:PLOT37,1,48+T
1040 :FORN=1TO5:IFHOLD(N) THEN1060
1050 : DICE(N)=INT(RND(9)*6)+1
1060 : DICE$(N)=STR$(DICE(N)):DICE$(N)=MID$(DICE$(N),2)
1070 : PLOT6+(3*N),1,DICE$(N)
1071 : PLOT6+(3*N),2,DICE$(N)
1080 : HOLD(N)=FALSE:PLOT6+(3*N),3,32
1090 :NEXTN:IFT=3THEN1220
1100 :REM ----- HOLD DICE? -----
1110 :REPEAT
1120 : MS$="Hold [1-5] Score [A-M] Throw [RETURN]":GOSUB MESSAGE
1130 : GETA$
1140 : IFA$>"A"AND A$<="M" THEN R$=A$:T=3:GOTO1210
1150 : IFA$=CHR$(13) THEN1210
1160 : IFV=0 THEN V=5
1170 : IFA$=CHR$(127) THEN HOLD(V)=FALSE:PLOT6+(3*V),3,32:V=V-1:GOTO1130
1180 : IF VAL(A$)<10RVAL(A$)>5 THEN MS$="HUH?":GOSUB MESSAGE:WAIT150:GOTO1120
1190 : V=VAL(A$):HOLD(V)=TRUE:PLOT6+(3*V),3,94 :REM (^)
1200 : IFHOLD(1)ANDHOLD(2)ANDHOLD(3)ANDHOLD(4)ANDHOLD(5) THEN T=3ELSE1130
1210 : UNTIL A$=CHR$(13) OR T=3
1220 : UNTIL T=3
1230 RETURN
1250 REM -----
1251 REM: CHECK AND SCORE
1252 REM -----
1260 PLOT8,3," "
1270 IF G<>13 THEN1300
1280 R=0:REPEAT:R=R+1:UNTIL CHECK(R,P)=0:R$=CHR$(R+64)
1290 GOTO1400
1300 IFR$<>" " THEN1340
1310 MS$="Score [A-M] ? "
1320 GOSUB MESSAGE
1330 GETR$
1340 IFR$<"A"OR R$>"M" THEN MS$="HUH?":GOSUB MESSAGE:WAIT150:GOTO1310
1350 R=ASC(R$)-64
1360 IF CHECK(R,P)=0 THEN1400
1370 MS$="You've already scored that row!":GOSUB MESSAGE
1380 SOUND1,5500,15:WAIT25:SOUND1,5500,0
1390 WAIT150:GOTO1310
1400 MS$="CHECKING "+R$+" ":GOSUB MESSAGE:CHECK(R,P)=1
1410 FORS=1TO6:Q(S)=0:TWO(S)=FALSE:THREE(S)=FALSE:FOUR(S)=FALSE:NEXTS
1420 TWO=FALSE:THREE=FALSE:FOUR=FALSE:FIVE=FALSE
1430 FORS=1TO6
1440 :FORN=1TO5
1441 : IF DICE(N)=S THEN Q(S)=Q(S)+1
1442 : IF Q(S)=2 THEN TWO(S)=TRUE
1443 : IF Q(S)=3 THEN TWO(S)=FALSE:THREE(S)=TRUE
1444 : IF Q(S)=4 THEN THREE(S)=FALSE:FOUR(S)=TRUE
1445 : IF Q(S)=5 THEN FOUR(S)=FALSE:FIVE=TRUE
1446 : IF Q(S)=5 THEN PING:MS$=E$+"LYAHTZEE! ":GOSUB MESSAGE:WAIT150
1450 :NEXTN
1460 NEXTS
1470 FORS=1TO6
1472 IFTWO(S)=TRUE THEN TWO=TRUE
1473 IFTHREE(S)=TRUE THEN THREE=TRUE
1474 IFFOUR(S)=TRUE THEN FOUR=TRUE
1475 NEXTS
1500 REM ----- SCORE -----
1600 ONRGOTO1610,1620,1630,1640,1650,1660,1700,1750,1800,1850,1900,1950,2000
1610 SC=Q(1)*1:TA(P)=TA(P)+SC:RETURN
1620 SC=Q(2)*2:TA(P)=TA(P)+SC:RETURN
1630 SC=Q(3)*3:TA(P)=TA(P)+SC:RETURN
1640 SC=Q(4)*4:TA(P)=TA(P)+SC:RETURN
1650 SC=Q(5)*5:TA(P)=TA(P)+SC:RETURN

```



```

1660 SC=Q(6)*6:TA(P)=TA(P)+SC:RETURN
1700 IFTHREERORFOURTHENGOSUB2000:RETURN
1705 IFFIVETHENGOSUB2000:RETURN
1710 SC=0:RETURN
1750 IFFOURTHENGOSUB2000:RETURN
1755 IFFIVETHENGOSUB2000:RETURN
1760 SC=0:RETURN
1800 IFTWOANDTHREETHENSC=25:RETURN
1805 IFFIVETHENSC=25:RETURN
1810 SC=0:RETURN
1850 IFQ(1)>0ANDQ(2)>0ANDQ(3)>0ANDQ(4)>0THENSC=30:RETURN
1851 IFQ(2)>0ANDQ(3)>0ANDQ(4)>0ANDQ(5)>0THENSC=30:RETURN
1852 IFQ(3)>0ANDQ(4)>0ANDQ(5)>0ANDQ(6)>0THENSC=30:RETURN
1855 IFFIVETHENSC=30:RETURN
1860 SC=0:RETURN
1900 IF(Q(1)=0ORQ(6)=0)AND(NOTTWOANDNOTTHREEANDNOTFOUR) THENSC=40:RETURN
1905 IFFIVETHENSC=40:RETURN
1910 SC=0:RETURN
1950 IFFIVETHENSC=50:RETURN
1960 SC=0:RETURN
2000 SC=0:FORN=1TO5:SC=SC+DICE(N):NEXTN:RETURN
2100 REM -----
2101 REM: DISPLAY THE SCORE
2102 REM -----
2110 IFSC=0THENSOUND1,5500,15:WAIT25:SOUND1,5500,0
2120 SC(P)=SC(P)+SC
2130 SC$=STR$(SC):SC$=MID$(SC$,2)
2140 IFR>6ANDR<14THENR=R+3:GOTO2160
2150 IFR=14THENR=7
2160 PLOTX(P)-LEN(SC$),R+5,SC$
2170 SC$(P)=STR$(SC(P)):SC$(P)=MID$(SC$(P),2):PLOTX(P)-LEN(SC$(P)),22,SC$(P)
2180 FORL=1TO3:PLOTB,L,"":NEXTL:PLOTX(1)-2,3,""
2190 RETURN
2200 REM -----
2201 REM: BONUS ROUTINE
2202 REM -----
2210 IFTA(P)<63ORBA(P)>0THENRETURN
2220 PING:MS$=E$+"L"+NM$(P)+", you've got your BONUS!":GOSUB MESSAGE
2230 SC=35:SC(P)=SC(P)+SC
2240 R=14:GOSUB2100
2250 BA(P)=1:WAIT150:RETURN
2300 REM -----
2301 REM: MESSAGE ROUTINE
2302 REM -----
2310 PLOT2,25,"":REM 37 SPACES!
2320 POKE616,25:PRINT:PRINTC$"D"E$"S"SPC((38-LEN(MS$))/2)MS$:RETURN
2400 REM -----
2401 REM: GAME DISPLAY
2402 REM -----
2410 CLS:PAPER0:INK7
2420 POKE48024,4:POKE48025,19
2421 MS$="Oric YAHTZEE"
2422 FORA=1TOLEN(MS$):POKE48025+A,ASC(MID$(MS$,A,1)):NEXTA
2430 PRINTC$"A"L$;
2440 PRINTC$"J"E$"TDICE:"E$"C"SPC(18)E$"G"E$"HThrow"
2441 PRINTC$"J"E$"TDICE:"E$"C"SPC(14)E$"G"E$"H"E$"Q" PLAYERS"
2450 PRINTC$"G"E$"THeld:"SPC(16)E$"L"E$"Q"
2455 PRINT
2460 PRINTC$"C"E$"TSECTION ONE "E$"P"
2465 PRINT" A."E$"FOnes"
2470 PRINT" B."E$"CTwos"
2475 PRINT" C."E$"FThrees"
2480 PRINT" D."E$"CFours"
2485 PRINT" E."E$"FFives"
2490 PRINT" F."E$"CSixes"
2495 PRINTC$"R" BONUS"E$"A35"E$"B"

```

```

2500 PRINT:PRINTC$"C"E$TSECTION TWO "E$P"
2505 PRINT" G."E$F3 of a kind"
2510 PRINT" H."E$C4 of a kind"
2515 PRINT" I."E$FFull House "E$A25"E$F"
2520 PRINT" J."E$CLOW Straight "E$A30"E$C"
2525 PRINT" K."E$FHigh Straight"E$A40"E$F"
2530 PRINT" L."E$CYAHTZEE "E$A50"E$C"
2535 PRINT" M."E$FChance"
2540 PRINT" TOTAL"
2550 PRINT:PRINTC$"A"L$;
2560 MS$="":GOSUB MESSAGE
2570 FORP=1TONP
2580 PLOTX(P)-LEN(NM$(P)),4,NM$(P)
2590 PLOTX(P)-1,22,48:NEXTP
2600 RETURN
3000 REM -----
3001 REM: INITIALISING ROUTINE
3002 REM -----
3005 CLS:PAPER0:INK6:POKE618,3
3010 FORA=0TO39:POKE48000+A,32:NEXTA
3020 PRINTC$"A"L$D$;
3030 PRINTC$"D"E$S"E$J Oric YAHTZEE":PRINTD$
3040 PRINTC$"A"L$;
3050 POKE616,24:PRINT:PRINTC$"A"L$;
3060 PRINTC$"D"E$S";
3070 POKE616,7:PRINT:PRINTD$E$J"E$B HOW MANY PLAYERS ?"E$G[1-4] ";
3080 GETNP$:NP=VAL(NP$)
3090 IFNP$="0"THENPRINTNP;D$:MS$="OK. Be seeing you.":POKE618,2:GOSUBME:GOTO440
3100 IFNP<10RNP>4THEN3080
3110 PRINTNP:PRINT:PRINTD$
3120 FORP=1TONP
3130 :BA(P)=0:TA(P)=0:SC(P)=0
3140 :FORR=1TO13:CHECK(R,P)=0:NEXTR
3150 :PRINT:PRINT" PLAYER "P;CHR$(8)"'s INITIALS"E$G";:INPUTNM$(P)
3160 :NM$(P)=LEFT$(NM$(P),3)
3170 NEXTP
3180 PRINT:PRINT:PRINTC$"E Do you want the KEY-CLICK on"
3182 PRINTC$"E during the game ?"E$G[Y/N] ";
3190 REPEAT:GETA$:UNTILA$="Y"ORA$="N"
3200 IFA$="Y"THENKC=2ELSEKC=10
3210 POKE618,KC:RETURN
4000 REM -----
4001 REM: INSTRUCTIONS
4002 REM -----
4010 CLS:PAPER0:INK6:POKE618,10
4020 PRINTC$"A"L$D$;
4030 PRINTC$"D"E$S"E$J Oric YAHTZEE":PRINTD$
4040 PRINTC$"A"L$;
4050 PRINT:PRINTC$"CYAHTZEE"E$Gis a game of chance & strategy";
4052 PRINTC$"Gwhich in this version can be played by";:PRINTC$"Gup to four people."
4054 PRINT:PRINT"Each player may throw the 5 dice threetimes, but before the 2nd and "
;
4056 PRINT"3rd":PRINT"throws, may HOLD any that seem useful.";
4058 PRINT:PRINT"The object of the game is to achieve certain combinations of the 5 "
;
4060 PRINT"dice, as";:PRINT"detailed on the following page. The"
4062 PRINT"strategy comes in deciding how to score each throw."
4064 PRINT:PRINT"The game ends when each player has scored each of the 13 ";
4068 PRINT"combinations,":PRINT"(even if any of the scores are zero!)"
4070 PRINT"and the winner is the player with the highest total at the end.";
4071 PRINT" (Amazing!!)"
4072 PRINT:PRINTC$"A"L$;
4074 PRINTC$"D"E$S PRESS ANY KEY TO CONTINUE...";
4100 RETURN
5000 REM -----
5001 REM: SCORE CARD

```

```

5002 REM -----
5010 CLS:PAPER0:INK7
5020 PRINTC$"A"L$D$;
5030 PRINTC$"D"E$"S"E$"J          Oric YAHTZEE":PRINTD$
5040 PRINTC$"A"L$;
5052 PRINT:PRINTC$"C"E$"TSECTION ONE "E$"P"
5065 PRINT"  A."E$"FOnes  ";
5066 PRINTC$"B scores number of ones x 1";
5070 PRINT"  B."E$"CTwos  ";
5071 PRINTC$"B scores number of twos x 2";
5075 PRINT"  C."E$"FThrees";
5076 PRINTC$"B    etc..."
5080 PRINT"  D."E$"CFours  ";
5081 PRINTC$"B          eg"E$"G41444"E$"Bscores 16";
5085 PRINT"  E."E$"FFives  ";
5086 PRINTC$"B          eg"E$"G55512"E$"Bscores 15";
5090 PRINT"  F."E$"CSixes  ";
5091 PRINT
5095 PRINTC$"B          BONUS";
5096 PRINTC$"F...when"E$"CSECTION ONE";
5097 PRINTSPC(15)E$"Ftotal reaches 63..."E$"A35";
5100 PRINTC$"C"E$"TSECTION TWO "E$"P"
5105 PRINT"  G."E$"F3 of a kind ";
5106 PRINTC$"Bscores sum of 5 dice";
5110 PRINT"  H."E$"C4 of a kind ";
5111 PRINTC$"Bscores sum of 5 dice";
5115 PRINT"  I."E$"FFull House  ";
5116 PRINTC$"B eg"E$"G33322"E$"Bscores"E$"A25";
5120 PRINT"  J."E$"CLOW Straight ";
5121 PRINTC$"B eg"E$"G12346"E$"Bscores"E$"A30";
5125 PRINT"  K."E$"FHigh Straight";
5126 PRINTC$"B eg"E$"G12345"E$"Bscores"E$"A40";
5130 PRINT"  L."E$"CYAHTZEE      ";
5131 PRINTC$"B eg"E$"G55555"E$"Bscores"E$"A50";
5135 PRINT"  M."E$"FChance      ";
5136 PRINTC$"Bscores sum of 5 dice";
5140 PRINT:PRINTC$"G"E$"T Scores in red are FIXED scores -"
5142 PRINTC$"G"E$"T Others are determined by the dice."
5144 PRINTC$"A"L$;
5146 PRINTC$"D"E$"S    PRESS ANY KEY TO CONTINUE...";
5150 RETURN
6000 REM -----
6001 REM: MORE DETAILS...
6002 REM -----
6010 CLS:PAPER0:INK6
6020 PRINTC$"A"L$D$;
6030 PRINTC$"D"E$"S"E$"J          Oric YAHTZEE":PRINTD$
6040 PRINTC$"A"L$;
6050 PRINT:PRINTC$"GAt this stage an explanation of some"
6052 PRINTC$"CYAHTZEE"E$"Gterms might be useful..."
6054 PRINT:PRINT"A"E$"GFULL HOUSE"E$"Fis a 'hand' (throw?) in"
6056 PRINT"which you have 2 dice with the same  number and 3 dice with the same ";
6058 PRINT"number";
6070 PRINT:PRINT"In a"E$"GLOW STRAIGHT"E$"Fyou have 4 consec- utive numbers, ";
6072 PRINT"while a"E$"GHIGH STRAIGHT"
6074 PRINT"has 5 consecutive numbers."
6076 PRINT:PRINT"A"E$"GYAHTZEE"E$"Fis a throw in which all 5  dice are the same. ";
6078 PRINT"Normally this will score you"E$"A50"E$"Fbut YAHTZEEs can be used"
6080 PRINT"in any row of"E$"CSECTION TWO"E$"Fgiving the  usual score for that row."
6082 PRINT:PRINT"A"E$"GCHANCE"E$"Fcan be scored at any point inthe game."
6090 PRINTC$"G"E$"TNow take another look at the chart"E$"L>"
6092 PRINTC$"A"L$;
6094 PRINTC$"D"E$"S    PRESS ANY KEY TO CONTINUE...";
6100 RETURN

```


MASTERMIND

```

10 REM =====
11 REM: ORIC-1 MASTERMIND - version 2
12 REM: By Mike Brown & Martin Frost
13 REM: 15/10/83
14 REM =====
40 HIMEM#97FF
50 FORA=47072TD47079:READB:POKEA,B:NEXTA:DATA0,0,63,63,63,63,0,0
60 REPEAT:L$=L$+CHR$(124):UNTILLEN(L$)=38
70 GOSUB3000
80 GETA$
90 CLS:INK3
100 REM -----
101 REM: DRAW SCREEN
102 REM -----
110 HIRES
120 PAPER4:INK7
130 CLS:POKE618,2
140 CURSET0,0,3:FILL18,1,16:CURSET12,0,3:FILL12,1,7
145 CURSET60,1,3:FILL11,1,20:CURSET114,0,3:FILL13,1,16
150 CURSET59,0,3:DRAW54,0,1:DRAW0,13,1:DRAW-54,0,1:DRAW0,-13,1
160 CURSET0,18,3:DRAW227,0,1:CURSET0,199,3:DRAW227,0,1
170 CURSET42,32,3:FORN=1TD9:CHAR 48+N,0,1:CURMOV0,16,3:NEXTN
180 CURMOV-6,0,3:CHAR 49,0,1:CURMOV6,0,3:CHAR 48,0,1
190 CURSET59,24,3:DRAW54,0,1:DRAW0,169,1:DRAW-54,0,1:DRAW0,-169,1
200 CURSET60,25,3:FILL167,1,16
210 CURSET114,24,3:FILL169,1,20
220 CURSET126,24,3:FILL169,1,0
230 CURSET132,24,3:FILL169,1,19
240 CURSET186,24,3:FILL169,1,20
250 CURSET192,24,3:FILL48,1,6:FILL120,1,7
260 CURSET202,24,3:FILL169,1,17
270 CURSET221,24,3:FILL169,1,20
280 CURSET205,33,3:FORL=1TD17
290 CHAR ASC(MID$("ORIC MASTERMIND 2",L,1)),0,1:CURMOV0,9,3:NEXTL
300 CURSET132,3,3:FORL=1TD3
310 CHARASC(MID$("YOU",L,1)),0,1:CURMOV6,0,3:NEXTL:FILL8,1,2
320 YS$=STR$(YS):YS$=RIGHT$(YS$,LEN(YS$)-1):IFY$<10THENYS$="0"+YS$
330 CURSET156,3,3:FORL=1TOLEN(YS$)
340 CHARASC(MID$(YS$,L,1)),0,1:CURMOV6,0,3:NEXTL:FILL8,1,7
350 CURSET174,3,3:FORL=1TD4
360 CHARASC(MID$("ORIC",L,1)),0,1:CURMOV6,0,3:NEXTL:FILL8,1,6
370 MS$=STR$(MS):MS$=RIGHT$(MS$,LEN(MS$)-1):IFMS$<10THENMS$="0"+MS$
380 CURSET204,3,3:FORL=1TOLEN(MS$)
390 CHARASC(MID$(MS$,L,1)),0,1:CURMOV6,0,3:NEXTL
400 REM -----
401 REM: THAT'S THE SCREEN DRAWN,
402 REM: NOW LET'S START ON THE GAME
403 REM: FIRST "GET" THE GUESS...
404 REM -----
410 FORX=1TD4:C(X)=INT(RND(9)*10):NEXTX
415 CLS:PRINT:PRINTE$"H"E$"F OK, I'VE CHOSEN A NUMBER...
416 PRINT" What's your first guess?";
420 FORGS=1TD10
430 :FORX=1TD4:BC(X)=0:BG(X)=0:NEXTX
440 :BS=0:WS=0
450 :T=0
460 :REPEAT
470 : GETGS$
480 : IF(GS$>="0")AND(GS$<="9")AND(T<>4)THENT=T+1:G(T)=VAL(GS$):GOSUB1000
490 : IF(GS$=CHR$(127))AND(T<>0)THENG(T)=0:T=T-1:GOSUB2000
500 : IF(GS$=CHR$(13))AND(T=4)THENT=5
510 :UNTIL T=5
520 REM -----
521 REM: OK, NOW WE'VE GOT THE GUESS, LET'S DO THE SCORING...
522 REM -----

```

```

530 FORX=1TO4
540 :IFG(X)=C(X) THENBS=BS+1:BG(X)=1:BC(X)=1
550 NEXTX
560 FORX=1TO4
570 :IFBG(X)=1THEN620
580 :FORY=1TO4
590 : IFBC(Y)=1THEN610
600 : IFG(X)=C(Y) THENWS=WS+1:BG(X)=1:BC(Y)=1
610 :NEXTY
620 NEXTX
625 REM -----
626 REM ...AND DISPLAY THE CLUE...
627 REM -----
630 CURSET138,16+(GS*16),3
640 IFBS=0THEN680
650 FORB=1TOBS
660 :CHAR127,0,1:CURMOV12,0,3
670 NEXTB
680 IFWS=0THEN720
690 FORW=1TOWS
700 :CHAR126,0,1:CURMOV12,0,3
710 NEXTW
720 IFBS<>4THEN800
725 PING:YS=YS+1:GOSUB1500
728 RG=INT(RND(9)*6)+1
730 CLS:PRINT:PRINTE$"H"E$"B "RG$(RG):PRINT" Another game? ";
735 FORPG=1TO5:PING:WAIT20:NEXTPG
740 GETZ$:IFZ$="Y" THENGOSUB2500:GOTO400
750 IFZ$<>"N" THEN740
760 CLS:PRINT:PRINT" OK,":PRINTE$"L"E$"A Be seeing you...";
770 GOSUB2500:WAIT250:TEXT:POKE618,3:END
800 IFGS=10THENZAP:GOTO820
810 EN=INT(RND(9)*10)+1:CLS:PRINT:PRINT:PRINT" "EN$(EN);:PING
820 NEXTGS
825 MS=MS+1
830 AB=INT(RND(9)*10)+1
840 CLS:PRINT:PRINTE$"L"E$"E "AB$(AB):PRINT" Another game? ";:GOSUB1500:GOTO740
1000 REM -----
1001 REM: SUBROUTINE TO DISPLAY GUESS
1002 REM -----
1010 CURSET48+(T*12),16+(GS*16),3
1020 CURMOV6,0,3:CHAR48+G(T),0,1
1030 RETURN
1500 REM -----
1501 REM: DISPLAY "OBJECT" AND SCORE
1502 REM -----
1510 CURSET132,3,3:FILL8,14,64
1520 CURSET 60,3,3
1530 FORX=1TO4:CURMOV6,0,3:CHAR48+C(X),0,1:CURMOV6,0,3:NEXTX
1550 CURSET132,3,3:FORL=1TO3
1560 CHARASC(MID$("YOU",L,1)),0,1:CURMOV6,0,3:NEXTL
1570 FILL8,1,2
1580 YS$=STR$(YS):YS$=RIGHT$(YS$,LEN(YS$)-1):IFY$<10THENYS$="0"+YS$
1590 CURSET156,3,3:FORL=1TOLEN(YS$)
1600 CHARASC(MID$(YS$,L,1)),0,1:CURMOV6,0,3:NEXTL
1610 FILL8,1,7
1620 CURSET174,3,3:FORL=1TO4
1630 CHARASC(MID$("ORIC",L,1)),0,1:CURMOV6,0,3:NEXTL
1640 FILL8,1,6
1650 MS$=STR$(MS):MS$=RIGHT$(MS$,LEN(MS$)-1):IFMS<10THENMS$="0"+MS$
1660 CURSET204,3,3:FORL=1TOLEN(MS$)
1670 CHARASC(MID$(MS$,L,1)),0,1:CURMOV6,0,3:NEXTL
1700 RETURN
2000 REM -----
2001 REM: "DELETE" GUESS
2002 REM -----

```

```

2010 CURSET54+((T+1)*12),16+(GS*16),3
2020 FILL8,1,64
2030 RETURN
2500 REM -----
2501 REM: SUBROUTINE TO ERASE PREVIOUS          GAME FROM SCREEN...
2502 REMARKABLY GOOD, EH?
2503 REM -----
2510 CURSET66,1,3:FILL11,7,64
2520 CURSET66,25,3:FILL167,7,64:CURSET138,25,3:FILL167,7,64
2530 RETURN
3000 REM -----
3001 REM: WELCOME PAGE
3002 REM -----
3005 C$=CHR$(27)+"P"+CHR$(27):D$=CHR$(4):E$=CHR$(27):PAPER0:INK6:POKE618,2
3010 CLS:PRINTC$"D"L$D$;
3012 PRINTC$"F"E$Q"E$J          ORIC"E$GMASTERMIND 2"
3014 PRINTD$:PRINTC$"D"L$;
3016 PRINT:PRINTC$"GBy"E$B"MIKE BROWN"E$G&"E$BMARTIN FROST,"E$GOct '83."
3020 PRINTC$"GMASTERMIND 2"E$Fis a game in which you
3022 PRINT"have to guess a four-figure number    chosen at random by the mighty ";
3024 PRINT"Oric!";PRINT
3026 PRINT"After each guess you will get a visualclue...
3028 PRINT:PRINTC$"@E$S":PRINTC$"@E$S"CHR$(254)" means you have a correct digit
3030 PRINTC$"@E$S":PRINTC$"@E$S"CHR$(255)" means you have a correct digit
3032 PRINTC$"@E$S" which is also in the right column.":PRINTC$"@E$S"
3034 PRINT:PRINT"Oric will PING after the clue has beengiven and you can then enter ";
3036 PRINT"your nextguess.
3050 PRINT:PRINTC$"D"L$;:PRINTC$"G"E$Q          PRESS ANY KEY TO START"E$L...";
4000 REM =====
4001 REM: NOW READ IN THE ARRAY DATA
4002 REM: WHILE THE WELCOME PAGE IS          ALSO BEING READ...
4003 REM -----
4004 REM: ABUSE!!!
4005 REM -----
4010 FORAB=1TO10:READAB$(AB):NEXTAB
4021 DATA"YOU MASTERWALLY!!!"
4022 DATA"NEXT TIME MAYBE?"
4023 DATA"WOULD I LIE TO YOU?"
4024 DATA"PASS!!"
4025 DATA"TRY SPACE INVADERS!"
4026 DATA"YOU CRETIN!"
4027 DATA"I CAN'T STAND THIS MUCH LONGER!"
4028 DATA"WAKE UP!!!"
4029 DATA"ARE YOU ASLEEP OR WHAT?"
4030 DATA"DON'T CALL US..."
4050 REM
4051 REM: RIGHT...
4052 REM -----
4060 FORRG=1TO6:READRG$(RG):NEXTRG
4070 DATA"YOU GOT IT!","RIGHT!","EXCELLENT!","WELL DONE!"
4071 DATA"THAT'S IT!","NOT JUST A PRETTY FACE ARE YOU?"
4080 REM
4081 REM: ENCOURAGEMENT!
4082 REM -----
4090 FOREN=1TO10:READEN$(EN):NEXTEN
4100 DATA"No! try again...","Have another go!","What's your next guess?"
4101 DATA"Think carefully...","Keep trying...","Sorry, guess again..."
4102 DATA"Don't give up!","Next!","No, that's not it...","Try again..."
4110 REM =====
4120 RETURN

```

ORIC LETTERS

DON'T INTERRUPT

Dear O. C.

Using an Epsom printer for my program listings has shown that some of us suffer from the 'Squiggle Line' disease. I've now found out that these are supposed to be caused by keyboard interrupts. To avoid these arch enemies, I've adopted the following:-

CALL #E6CA:LLIST

With this small entry I've found that I now get 'Squiggle' free listings - Nice isn't it?

Dear Bob

I've read a news release in one of the magazines referring to a company called ITL who it appears are preparing to launch a rival disc system for the Oric and one which seems to be ahead of the long awaited 'Official' system from Oric themselves. I would like to know if its worth the risk of ordering one of these outfits rather than waiting any longer.

Ed - Not having reviewed or even seen one of these systems by ITL I cannot make any comment as to their value or integrity on the system. There's also another small point to consider. What disc drive version will be followed by the software houses in support, and also will this system be compatible with Oric's expansion plans for the future against that of the independent producers? Putting money forward at this stage, in particular these amounts, is something I wouldn't do just yet, not until I've had the opportunity to test out one of these systems.

Dear Bob,

Although I can record and reload from my Oric on my own tape recorder I can't load any borrowed or commercial software. Seeing that I've just started in computing with an Oric I find the situation very confusing. I've heard all manner of things as remedies to ease my problem but I have little confidence in the explanation or ideas, so I would be grateful for your assistance.

Ed - Your problem is not rare by any means, not since the introduction of computers into the domestic market and environment. The fault will probably not be with your Oric but with your recorder, at this point I would not suspect your connecting lead. The Oric has been designed to

accept an ordinary tape recorder as an information or data storage device. With that, and the fact that you're able to record and reload your own programs on cassette and not others appears to enforce my opinion that your recorder may have an inbuilt characteristic such as a speed problem or misaligned Record / Playback heads or something similar. I would suggest before taking any further action to remedy the situation I would borrow a friends recorder if you can along with borrowed software and commercial software, and if this combination now works then either replace your recorder for a new one or have it checked by a competent engineer.

TAPE VERIFY - Oric Computing - Nov. 83.

After last months 'Tape Verify' routine comes many letters of help and queries regarding the programming of this super routine. Many Oric owners are in fact trying to program this machine code routine in the normal Basic language. Whilst this is quite possible if the Data is converted to Decimal, it serves only to increase the work load on the User (Programmer) rather than achieve the desired effects of us serving a wide range of User interests and requirements.

To enter machine code programs it is essential the User has adequate working tools for the job as the Oric's language system is orientated towards the Basic language. With the right machine code monitors which are available it makes sense to use these tools to ease programming blues!

Although the Oric-1 uses the popular Basic language, it does so after firstly working directly with the 6502 processor in Assembly language or machine code as we call it, so working directly in machine code will give the average User the opportunity to create more efficient and faster programs not possible with the Basic Interpreter. Most of the fast action professional programs will use machine code programming for these very reasons. Your Oric Computing will, from time to time, have machine code program listings for you to use. It goes without saying therefore that it is essential that you equip yourselves with the proper tools to do the job.

One very interesting topic has arisen just recently over the use of machine code monitors. Under no circumstances is it acceptable that the current machine code monitors include a built in 'Assembler' whether single or two 'Pass' as it is generally accepted throughout the professional programming world that these are used as separate items. Only in the more expensive price ranges will such facilities be offered in an overall package, most certainly outside the scope of the average Oric User at this time. So if you want to keep on top of any likely machine code programs appearing in your mag then we suggest that you acquire a decent machine code monitor and keep in with the rest of us!

THE ORIGINAL DOPPEL-GANGER . . .

Hi there all of you Oric-Users, Doppel-Ganger Here with an article on writing Adventure programs
I will show you how to go places with just two keypresses, and so I shall.

Up to now, we've been using the GO command for movement. Nothing here has to be changed. Add to your command Array the extra words NORTH, SOUTH, EAST, WEST, UP, DOWN, N, S, E, W, U, D,

Then, after checking the first word of Input, use ON-Goto for your other commands, but follow this with

"NO\$ = VB\$: GOTO (Your GO routine)"

Provided that your GO routine works on the First character only of NO\$ then this will allow you to type, say North, or just N, as well as GO NORTH

This routine is very simple, and may be easily added to any existing program you may have written.

Some time ago, around a year to be precise, I had this idea

The idea was to have a 'The Last One', of Adventure programming, like a Program that wrote Adventure programs

Well, Not exactly.

The idea was to let the user Create his own Adventure program with minimum effort. First, map out a Scenario, then tell the program how many locations, describe the locations, enter the monsters, and what you have to do to conquer them etc.

However, this idea never went the distance. Firstly, That computer can only save to tape a maximum record length of 80 characters, saving all the data, a bit at a time, even at fast, would have been too tedious

The Oric has no such problems. By sneaking a look at the listing of 'Filestar' I now know how to save arrays, strings and variables, I have been working along similar lines myself, but with only limited success. What you do is this

```
CSAVE"POINTERS",A#9E,E#A7
```

```
CSAVE"DATA ONE",ADEEK(#9C),EDEEK(#A0)
```

```
CSAVE"DATA TWO",ADEEK(#A2),EDEEK(#A6)
```

To save, and to Load . .

```
CALL#E725"POINTERS":CALL#E6CA:CALL#E4A8:CALL#E804
```

```
CALL#E725"DATA ONE":CALL#E6CA:CALL#E4A8:CALL#E804
```

```
CALL#E725"DATA TWO":CALL#E6CA:CALL#E4A8:CALL#E804
```

I hope the Author of 'Filestar' doesn't mind me giving his secret away, but this is a piece of information EVERY Oric-user should have. when Spectrum owners and the like insult your Oric by saying it can't do file handling, say to them something like

"It may not have any built in file handling, but file handling on the Oric is so simple it's almost ridiculous . . !

By the way, for Slow saving and loading, add ,S after the filenames, and for Both, ask the user which speed, then duplicate the lines without and with the ,S suffix, and jump to the right lines accordingly, and to use a Filename, ask the user for a filename before saving (Or use the players name), then save, then for loading, ask for the filename, then POKE that into #400 + , load in the data, PEEK the filename back and check it, then if its wrong, say so, and carry on loading. (And once again, I hope the Author of 'Filestar' will not mind tat I have brought his method to full attention of members You can't top The Best! Right!)

Back to that Program. Of course, using this method to transfer data between programs means that both programs have to be EXACTLY the same length, although this should be easily achieved by padding out the shorter of the two with REM statements.

This program, I may. or may not write (Although to tell you the truth what I would REALLY like to write is a program that can CREATE adventure programs under its own steam. It would have to lay out in an array (Randomly) the 'Complex', or the Map, also, create a description of the room from certain random attributes (No not Screen attributes, Room attributes). This is. or is feasibly, possible, and it would have to select from a stock list of Objects (Although it would Create some by similar means to the room Description), and choose from a stock list of Monsters.

All this done, and transferred into Arrays, it would save them on tape, for a 'PLAYER' program to allow the user to actually play the adventure.

If I could work out some of the minor details of this program, then maybe

(Perhaps the promised Oric Disk-drives would add Disk file handling, if so this reduces the need for CREATOR and PLAYER to be the same length, by the way, Hitch-Hiker's Guide (Renamed Star Tramp, for Copyright reasons) is something else which is waiting for the Drives . . .)

To round off with, Ive just started work on a Graphics Adventure for Oric.

This adventure may have speech using the Fabulous new Speech Synthesiser (BUY ONE TODAY!!! At 30 quid you can't go wrong!!) provided I have room to fit it in after I've written it.

The program is to be called "Crowley's House", (After Aleister Crowley) and is the most sophisticated project I have ever embarked upon.

Well, more of that later, but for now, Doppel-Ganger Out! (Yes, I've been playing Star Trek again . . . !)

P.S. If you're wondering right here just who Aleister Crowley was, try reading Dennis Wheatley's "To the Devil - a Daughter" (Which gave me the germ of the idea) or maybe the occult section of your local library can help (or if your ears can stand it try listening to Ozzie Ozbourne L.P's Ha ha . . .)

SOFTWARE REVIEWS

by DAVID JAMES

CANDYFLOSS/HANGMAN IJK SOFTWARE

CANDYFLOSS

The game begins with a graphic representation of Blackpool promenade, with the tower in the background, and gives a tenuous rendering of 'Oh, I Do Like To Be Beside the Seaside'. You're the proprietor of a candyfloss stall, and the object of the game is to try and build up your assets by making candyfloss, pricing it, and making advertising signs. The price of making candyfloss fluctuates, as does the weather. Workmen occasionally repair the sea wall, and they seem to have a distinct liking for candyfloss, as long as the price is right! You are asked how many people are playing, and after putting in their names, you are given a weather report (Sunny, dry, cloudy, etc.....cloudy accompanied with 'Raindrops Keep Falling on My Head', with an occasional thunderstorm which can prove disastrous for business). Oric plays a little tune while you are reading the weather report, and although this is entertaining the first few times, it gets rather tedious after a while...attempts to 'press the Space Bar to continue' while the tune is playing are futile, and results in strange noises coming from the speaker. After the tune has finished, pressing the space bar clears the screen, and you are given information on how much it costs to make candyfloss (watch out for sugar supplies!??) and your assets. You are then asked how much candyfloss you want to make, how many advertising signs you want (15p each), and how much you want to charge for the candyfloss. In case you want to change anything, you are given the opportunity to make your decisions again. It is obviously more fun if two or more people are playing, as you can try and attract more customers with the price of your candyfloss and the number of advertisement boards you have, but I found the game quite entertaining with just my own stall (no competition, y'see!). The sarcastic comments given at various stages of the game add humour, and make 'Candyfloss' definitely a game worth playing.

GRAPHICS	***
SOUND	***
COLOUR	***
ENTERTAINMENT VALUE	***
ADDICTIVE VALUE	**
GENERAL ASSESSMENT	***

HANGMAN

The game is an advanced version of the pen and paper hangman, offering seven categories (birds, towns and cities, rivers, animals, pop groups/stars, football teams, pot luck) and also the facility of putting in your own category (this has to be done at the start of the game, and involves a rather complicated method of putting in your own words, i.e. typing in another four lines of program, and then a 'GOTO' command to run...I stuck with the seven categories already offered!!!). Pressing 'ESCAPE' at any time returns you to the category menu. The graphics are reasonably good, and the tunes change from the 'Death March' to 'Congratulations' when you lose and win respectively. Correct letters go into their appropriate places at the bottom of the screen with a pleasing 'pop', incorrect letters are listed on the right hand side of the screen in a 'tried' column, accompanied with a deeper note. You get eight chances of offering a wrong letter, after which you are hung, and a gravestone takes your place on the screen. The expression on 'your' face changes as the noose gets tighter (or your grow more limbs, whichever way you look at it), and your eyes swivel from side to side in anticipation of being saved. I've gone through all the categories now, and know all the words off by heart, so I suppose I'll have to try and tackle the 'your own category' procedure...

GRAPHICS	***
SOUND	***
COLOUR	**
ENTERTAINMENT VALUE	**
ADDICTIVE VALUE	**
GENERAL ASSESSMENT	***

ORIC-I COMPEDIUM (VIPER/KINGDOM/SPACE STATION) SALAMANDER SOFTWARE

The first game is called viper and consists of a snake made up of five sections. The idea is to guide your snake around the screen, avoiding obstacles, and head for randomly placed numbers that count down steadily. You gain points if you reach the number, but if it gets to 0 before you 'eat' it, you lose points. There are two tunnels to escape down, enabling you to take a short cut from the top of the screen to the bottom (or vice versa). The game is very basic and slow moving, and I found difficulty in controlling my snake with the aid of my cursor control keys, and after the first couple of games, swiftly moved on.

GRAPHICS	*
SOUND	*
COLOUR	*
ENTERTAINMENT VALUE	*
ADDICTIVE VALUE	*
GENERAL ASSESSMENT	*

(I'm being generous...)

The second game is called Kingdom, and you are the ruler. Unfortunately, all instructions and text are written in a Gothic style, which makes it rather difficult to read, but once you've mastered this, the game is reasonably entertaining. You are asked to buy and sell land in your country, El Lagunda. Land is paid for in bushels, and you are given so many bushels to barter with. You then buy acres of land, distribute some bushels for food, plant seed, spend some bushels on protecting your grain from Turks, and then wait for the result of your decisions. If you're a competent ruler, you reign again, making new decisions on the assets you've got; if not, you get a score breakdown and the option of another game. I liked the comments that were offered when I didn't give my people enough to eat, or didn't buy enough land. One point that I found irritating was having to press 'any key' to scroll the screen when it was full, often in the middle of answering questions, but being referred to as 'Master' and having 'humble servants' nearly made up for it....

GRAPHICS	N/A
SOUND	N/A
COLOUR	BLACK/WHITE
ENTERTAINMENT VALUE	***
ADDICTIVE VALUE	***
GENERAL ASSESSMENT	***

The third game is called Space Station, and I'm still trying to work out what the object of the game is. There are plenty of control keys (A,Z,S,X,less than, greater than) and they are for left, right, up, down, backwards and forwards, though not necessarily in that order, but you can't tell the difference anyway. The shift key makes you go faster I think, but as for what you are supposed to do with your little space craft, I've got no idea. Unfortunately, on-screen instructions are not given...perhaps they're on the cassette label (I've just got the cassette). As far as I can make out, the screen is divided into three sectors, and your velocity (based on factors unknown to me) changes whilst 'playing'. Sorry I can't be more helpful - perhaps someone out there in TUGland has this game, and can send me instructions on how to play - then perhaps a more constructive review might follow.

GRAPHICS	**
SOUND	*
COLOUR	**
ENTERTAINMENT VALUEIt's fun trying to work out how to play...
ADDICTIVE VALUE	?
GENERAL ASSESSMENT	(of graphics/sound/colour only I'm afraid)

NOTE:

I've only got three games on my compedium, perhaps someone out there has got four, as at the beginning of the tape there is thirty seconds of 'loading' time that results in a short 'blip' and nothing else...

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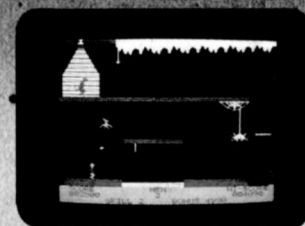
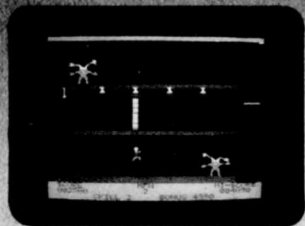
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VIDEO BAND WIDTH	6MHz.	10MHz.
DISPLAY	80 characters by 25 lines	80 characters by 25 lines
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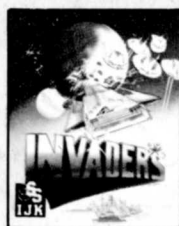
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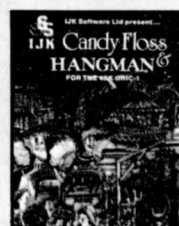
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